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Original Communications.

THE TREATMENT OF APOPLEXY.

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No disease taxes the skill of the physician more than apoplexy. The diagnosis of the form of lesion causing the symptoms and the determination of the limitations of human interference demand experience and judgment. The fact that so little can be done in a case of cerebral hemorrhage adds to the difficulty of deciding precisely what that little shall be. The dissimilar methods of management demanded in cerebral hemorrhage and embolic obstruction enhance a hundredfold the need of care in diagnosing the lesion. A misjudgment in the arranging of the position of the patient may mean death instead of life. The administration of a heart stimulant in place of a heart sedative may bring the case to a promptly fatal termination. An unwise attempt to evacuate a full stomach may provoke a renewal of the hemorrhage. A venesection may hasten or retard the end. All these questions must be rapidly and seriously considered in the presence of the patient, who will usually be found surrounded by frightened and clamorous

friends. Few occasions will the physician have wherein he will have more need of his steadiest nerve, readiest wit, and keenest judgment. For that reason it is not inappropriate to carefully review the care and management of so frequent and protean a trouble as apoplexy.

In considering the treatment of apoplexy most writers begin by dividing the subject into the prophylactic treatment and the treatment of the attack and sequelæ. It would be better, it seems to me, if the emphasis were laid more upon the treatment of the different conditions of cerebral hemorrhage and cerebral embolism. In confusing these, more serious errors are made than in any other way; and therefore it is of the utmost importance that a clear diagnosis be made and the prophylaxis and attack be handled accordingly. So important is this fact that the consideration of the treatment of apoplexy cannot proceed without a simultaneous consideration of the differential diagnosis. In the prophylaxis this differentiation between hemorrhage and embolism is almost impossible. The history of the case is about all that we have to rely upon. A previous attack of rheumatism followed by endocarditis would predispose to embolic obstruction; likewise would certain deteriorated blood states and circulatory weaknesses suggest embolism. On the other hand, high living, full habit, atheromatous arteries, would incline one to fear hemorrhage. Age counts for something, as well as heredity. But after all it is difficult, and fortunately not so necessary, to differentiate in managing the prophylaxis; for in both threatened hemorrhage and embolism the management of the prophylaxis is more alike than is the treatment of the attack. A quiet life, both physically and mentally, is a desideratum. The digestive and nutritive organs should be relieved of strain and encouraged to functionate normally. The emunctories should all be kept active to rid the system of deleterious substances. Sleep should be secured. Mental and physical activity should be evenly balanced. In a word, the threatened victim should be induced to lead a life of mild and even tenor, devoid of anxiety and brightened by as much happiness as possible. Beyond this little can be offered in the way of advice against an attack of hemorrhage or embolism.

It is quite otherwise in regard to the attack itself. Now the advice becomes of definite and distinct importance. The differential diagnosis must be made as sharply as possible. The suggestions to the nurse and attendants must be precise and not open to the least misconstruction. The patient when first seen will be almost invariably found lying flat on his back. Position is an important factor, and it behooves one to decide quickly how to place the patient to the best advantage. Gravity plays a rôle, though a slight one, in the force of the circulation; hence it must be remembered in connection with the nature of the lesion. If the case is one of hemorrhage, a half-reclining position on one or the other side of the body is the best. Heidenhain* recommends that the patient be put in a sitting-erect position and maintained in such an attitude as long as possible. I have seen amelioration of the symptoms by this simple maneuver. Often the friends standing about will strenuously object, but a compromise may be made by propping the patient against the overturned back of a chair in a half-reclining position. While he is in this attitude cold in the form of cracked ice should be applied to the head to cause as far as possible contraction of the cerebral vessels, and heat to the lower extremities to dilate the blood-vessels there and so lessen the blood-pressure in the brain. The latter may be further accomplished by the cautious administration of a cardiac sedative, such as tincture of aconite or veratrum.

If the case is one of embolic obstruction the reverse of all this should be done. Now we desire to increase the intracranial blood-pressure; for the embolism being already there and beyond the hope of immediate removal, it is our object to check its progress and further development by suddenly making it stationary. To do this the patient's head should be placed as low as possible. The cold and heat may be applied as before, but instead of a cardiac sedative a stimulant now acts more favorably, such as alcohol, ammonia, or even small doses of digitalis and ether.

The importance of attending at once to the decubitus of the patient is brought out by the fact that undoubtedly some fatalities occur from suffocation. Kind friends, not knowing what to do, put the patient on his back, with head low, and administer brandy, milk, or whiskey. Very often the tongue is partially paralyzed, as well as the pharynx, while the sensitiveness of the buccal mucous

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* *Berliner Klinische Wochenschrift*, Berlin, Feb. 10 1890.

membrane is lost. Saliva and fluids collect, obstruct, and even enter the air-passages, setting up inhalation-pneumonia. The obvious thing to do is of course to raise the head, place the patient on the side, carefully pull forward the tongue, and swab out the mouth with a dry rag or bit of linen moistened with some aromatic, antiseptic mouth-wash.

As the respiratory power is usually diminished, it is important that the patient should have all the fresh air possible. Crowding about his bed should be forbidden, and the windows even in cold weather be more or less open. It may even be necessary to perform artificial respiration, this being done with as little disturbance of the patient as possible, and only until the respiratory centers have sufficiently recovered from their shock to resume their normal functions. All constriction about the neck by tight clothing must be removed, so that the return circulation may not be obstructed. To increase the blood-pressure within the cranium in embolism, it may be well at times to apply the Esmarch elastic bandage to the lower extremities. It would be unwise to do this as a routine measure, but its worth in some cases cannot be doubted. To determine the blood away from the head we have two rapid and powerful methods, namely, bleeding and hydragogue purgation. The old-time practice of placing two or three drops of croton oil on the back of the patient's tongue is a good one. A brisk enema may be employed in some cases, but usually it is too slow in action. The same may be said of elaterium. Cerebral congestion is certainly modified by quick action upon the circulatory and glandular apparatus of the bowel, as can be clearly demonstrated; hence it is a rational conclusion to hold that the same means will be effective in lessening the intracranial blood-pressure in hemorrhage.

In regard to venesection, or the abstraction of ten or a dozen ounces of blood, there is a wide divergence of opinion. At one time it was a routine practice and consequently abused. On the other hand, there are those who boast that they never bleed a patient. Of the two extremes the latter is the preferable one. The abstraction of a few ounces of blood is almost immediately followed by a partial return to consciousness, and hence the one-time popularity of the treatment. It should be remembered, however, that the heart action in apoplexy is usually weakened. Therefore, to still more weaken it by depriving it of its natural stimulus, the blood, is hardly a commendable procedure. Only in sthenic cases with flushed countenance, full pulsating vessels, and a vigorous general physique is venesection to be thought of. The thinning of the blood diminishes its tendency to coagulation at the seat of hemorrhage and lessens its stimulating power upon the medullary cardiac center and heart muscle. In most cases these disadvantages would so far outweigh the possible little benefit due to the mechanical diminution of the intracranial blood-pressure that I am generally opposed to the operation. In the few cases in which I have abstracted blood, it seemed to me that the slight benefit and partial restoration to consciousness were so temporary as to be without any special value. In one case I fear it hastened the end, though both the consultant and myself anticipated the best of results.

All such slow means of withdrawing blood from the head as leeches to the temples, mustard to the nape of the neck, blisters, etc., may be tried in some cases, perhaps most cases; for, fortunately, even if they are slow they are not open to such objections as is venesection. If they irritate the patient they had better be desisted from, for the patient's distress will tend to a return or extension of the hemorrhage.

Diuretics are judicious, and in this connection it is well to mention that catheterization will sooner or later be required in almost every case. The bladder is usually paralyzed to a certain extent and fails to void its contents. Unless the catheter is promptly and systematically used the patient will experience distress, if he does not acquire a cystitis.

The skin should be attended to, and a gentle rubbing of the surface of the body with alcohol and tepid water cannot fail to be of some benefit. The enormous capillary circulation in the deeper layers of the skin may be made to retain a large amount of blood by the application of warmth to the body surface. Moreover, the cleansing of the skin with warm water awakens the activity of the glandular apparatus, and this will aid in determining the flow of blood away from the head.

It will thus be seen that very active treatment immediately after an apoplectic shock is uncalled for. Beyond careful nursing, quietude, arranging of the patient's position, attending to the respiration, nutrition, and

excretions, the physician can give but little advice. If the shock is so severe that death is inevitable, little that art or science can do will be of any value one way or the other. The end will come in a few days or hours, and though the occasional twitching of the muscles of the extremities as a result of the local irritation of the clot may awaken false hopes of a return to consciousness, the physician will serve his interests best by carefully guarding the family against any fallacious anticipations. If, however, consciousness partially or completely returns, and the patient is a hemiplegic with or without aphasia, the physician can do a great deal, not only for the victim's comfort, but even to ameliorate to a large extent the distress caused by the various sequelæ. In fact, this is the stage of apoplexy in which medical science can play its best hand. The storm has passed; it now remains to restore order as far as possible out of the wreck, and in doing this the attendant can sometimes do wonders. In the first place, every precaution spoken of under the head of prophylaxis should be adopted to prevent a return of the shock. Absolute quiet, mental and physical, with the head elevated; light, nutritious, non-nitrogenous diet; gentle sponging of the surface of the body; abundance of fresh air; and all those agencies calculated to cheer, invigorate, and nourish the patient, so far as he is capable of being so acted upon, should be carefully thought of.

While the clot is undergoing organization and surrounding itself with a capsule, the paralyzed muscles will become somewhat atrophied. To preserve the muscles in the hope of their resuming their function if the nervous centers should regain part of their power, faradism, massage, and gentle passive movements are to be instituted. Just how soon this is to be done is the source of a difference of opinion. In my own experience I have found it advantageous to begin very early—gently, of course, at first—not later than the first or second week after the shock and subsidence of all signs of irritation or possible inflammation. Passive movements and the passage through the muscles of a current of faradic electricity, just sufficiently strong to produce easy, regular contractions, should be made systematically for a few minutes each day. I am fond of using olive or cocoanut oil when giving the massage, as it softens the skin and, I believe, favors to a slight extent the nutrition of the underlying tissues. At no time should anything cold be placed against the body, and at all times the patient should be clad with warm, non-irritating garments. Later on it is a good thing to encourage the patient to attempt voluntary movement. Of course, this will be impossible in many instances, but he should move the well side, and the attendant may assist him by raising at the same time the paralyzed limb. Ofttimes the patient thinks he is doing this of his own will, and the hopefulness which it inspires cannot but be of benefit; nay, more, such simple maneuvers have kept the cortical memory or representative centers alive, so that when the motor areas had partially recovered their function the patient was better able to attempt and even succeed in performing voluntary movement than he otherwise would have been. Reeducation of paralyzed, or rather partially paralyzed, muscles is an important part of the physician's duty. Many a hemiplegic would have been less hemiplegic if the memories of muscular movement had been preserved by the early practice of passive movement in conjunction with attempted voluntary movement.

What I have just said applies likewise to the aphasia following the shock. The speech center should be encouraged to functionate, or at least an attempt made early in the trouble to awaken the activity of the corresponding speech center of the opposite side. These centers are the memory or representative centers for speech, and hence if a patient is utterly neglected it will happen that when the center recovers from the shock, the power of speech will be much less than it otherwise would have been. Hence, as soon as consciousness is sufficiently restored, I have the nurse for a few moments each day teach as she would a child the names of persons and things, and if possible get the patient to repeat them after her. It is astonishing in a certain percentage of cases how strikingly and rapidly the aphasic symptom may in part be recovered from by this prompt and regular reeducation of the memory centers for speech. In cerebral as well as muscular physiology it is an axiom that exercise increases nutrition and function. Many an aphasic hemiplegic would undoubtedly have been less of an aphasic and less of a hemiplegic by the systematic exercise of his cerebral structures as soon after the shock as possible, and when all signs of inflammation and irritation had subsided.

In all traumatic cases, and in all cases in

which the symptoms indicate a superficial location of the clot, trephining for the removal of the latter is to be taken into serious consideration. I recall the case of a boy of some five years of age who fell over a balustrade and sustained a severe concussion of the head, with the formation of an intracranial clot with all its accompanying signs of unconsciousness, localization, and stertor. The spreading of the clot immediately after the fall could be clearly observed by the spreading and deepening of the muscular paralysis. Trephining was immediately performed, with a partial restoration to consciousness and a slight return of the muscular power. The action of the muscles was a striking phenomenon. At first they were violently contracted, probably because of the irritative action of the clot; then they became paralyzed completely, with a more or less set rigidity. After trephining they relaxed completely, and remained so, or were very feebly moved as a result of subconscious volition. Death occurred in a few hours, however, from exhaustion and shock. The removal of a clot deep in the centrum ovale is a hazardous and difficult operation. It is attempted, however, but with little genuine success. The paralysis in such a case is not relieved, but a source of infection and irritation is removed and makes the operation at least one to be thoughtfully considered.

I have very little faith in the so-called sorbefacient powers of such remedies as the iodide of potash, gold, arsenic, etc. As alteratives they may indeed somehow modify the clot or the results of its presence in the cerebral tissues, but I am inclined to think that much of their effect is due to some kind of stimulant tonic power. At all events, their administration does seem to be of some benefit in some cases, and they are therefore to be commended.

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DISPLACEMENTS AND DILATATIONS OF THE ABDOMINAL ORGANS; THEIR RELATION TO FAULTY MODES OF DRESS, AND THEIR TREATMENT.

By Boardman Reed, M.D.,
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It would be impracticable within any reasonable limits to discuss this topic exhaustively and with full reference to its extensive bibliography. To do so would involve a consideration of the whole subject of the atony of the muscular abdominal walls and of the ligamentous supports of the intra-abdominal organs, with its most frequent primary or direct cause in the unhygienic dress of the great majority of women, as well as the sedentary habits and neglect of exercise in both sexes. We would need to consider, further, the indirect cause of this atony in the lowering of nutrition which results from a deficiency of pure air and sunlight, to say nothing of imprudence in diet, irregular hours of eating and sleeping, the abuse of narcotic drugs, and many other hygienic errors.

Attention will be called, therefore, to the following salient points only of a theme which is of deeper and more far-reaching importance than many physicians even realize:

1. Loose and movable kidneys, which term may be made to include the aggravated stage known as floating kidneys, rarely constitute a single or independent pathologic condition, but nearly always form part of a general disturbance of the abdominal contents, involving also either a dilatation or displacement of the stomach and transverse colon, as well as, in most cases, a marked sagging downward of the small intestines. Exceptionally the liver and spleen also sink below their proper positions.

2. This abnormality of the stomach, intestines, and other organs, notwithstanding assertions to the contrary, is in no sense a consequence of the looseness of one or both kidneys, but all result from a common cause, and even after the kidneys have been fastened in their normal position by an operation the former does not as a rule disappear or get well without appropriate medical and mechanical treatment.

3. This group of displacements, etc., under discussion was first fully described by Glenard in 1887, though in part recognized by others at an earlier date. It was called by him enteroptosis, but a more appropriate name is splanchnoptosis. It is also known as Glenard's disease. Chief among its many injurious results are constipation, nervous dyspepsia (in the earlier stages), and catarrh in various parts of the gastrointestinal tract, including especially the stomach, both large and small intestines, and the appendix vermiformis; also neurasthenia, anemia, insomnia, weak heart, and other symptoms dependent upon the autointoxication secondarily induced.

4. A very large proportion of uterine flexions and versions in the non-child-bearing

woman certainly, and probably also in parous women, are for the most part a direct mechanical result of the pressure from above of displaced colons heavy with retained feces, and low-lying dilated or displaced stomachs, which after a full meal may often be found resting immediately upon the bladder and uterus.

5. Displacements of the abdominal viscera are very much more frequent in women than in men.

In a large number of examinations of abdomens of which full records have been preserved, made during a period covering less than three years, and including the cases of 710 different persons, there were 362 patients in whom the greater curvature of the stomach was found at or below the level of the umbilicus as a result of either displacement or dilatation. There were many other cases in which the departures from the normal were present to a less extent. In exceedingly few—in not more than one per cent—of these 362 displacements and dilatations had the condition been previously recognized, so far as could be learned.

Of the above mentioned 362 abnormal stomachs, 122 were in men and 240 in women. Almost exactly two-thirds were thus in the female sex and only one-third in males. Of the displacements, in which the whole organ had descended instead of a part only having been stretched downward, the disproportion is still more striking. There were eighty of these, of which only twenty were in men, and sixty, or just three times as many, in women. This is in spite of the fact that nowadays, in cities at least, outside of the laboring class, a large proportion of men take scarcely more exercise than women, and all classes of men abuse their stomachs far more generally by the pleasures of the table and the temptations of the dram-shop. The conclusion is inevitable, therefore, that the great preponderance of this trouble in the weaker sex—weaker mainly because of their hygienic faults—is due largely to the harmful modes of dress prevalent among them. The constricting corset not only limits respiratory movements and tends by its direct compression to force several of the viscera inward and downward, but also keeps the lower thorax and entire abdomen of the wearer in splints even when not very tightly laced. In this way the muscles of the underlying region—precisely those whose function it is to help support the organs in place—are prevented from obtaining any efficient exercise, so that increasing flabbiness and atrophy of the abdominal walls ensue as a matter of course.

Further, the heavy dragging skirts, unsupported in the case of most fashionable ladies except by pressure upon the ever-weakening trunk muscles, with some help from the projecting hips, exert, whenever the victim is on her feet, a continual downward traction upon both the relaxing walls and yielding contents of the abdomen.

In view of these conditions the only wonder is that any woman who has conformed to the requirements of fashion during the years of adolescence (when the structures involved are especially pliant and easily pressed or stretched away from the normal), is to be found with healthful abdominal organs in their proper positions. And since many more young men than formerly, especially soldiers, militiamen, and the cadets in the numerous military schools, have taken to holding up their trousers with tightly buckled belts, which are only less injurious than corsets, we may expect to meet in the male sex with a larger crop of displaced organs by and by.

The statements contained under the foregoing five heads embody facts familiar to most physicians who have done much special work in diseases of the digestive system, though one or two of the points are not yet fully admitted by all. Our gynecologic friends, advancing steadily and triumphantly upward from their original habitat in the pelvis, have reached the regions of the appendix and the kidneys, which they already claim as their own. Edebohls, who is one of the ablest of them, and a few other brilliant operators of like enthusiasm, virtually insist now that any woman's ails that refuse to yield to a removal of the ovaries and tubes, uterus and appendix, must certainly be cured by anchoring in position any kidneys that they may find to be movable. These gentlemen do not seem to have yet reached a practical realization of the fact that dilated or displaced stomachs, which are nearly always associated with loose kidneys, are very often the principal cause of the seriously impaired health which results from the general atony and giving way of all the intra-abdominal organs. Yet these abnormalities require treatment quite as much as, and usually far more than, the movable kidneys. Indeed, the same gentle measures that will in time commonly restore the atonic and displaced stomach and intestines nearly if not quite to

the normal, often overcome the mobility of the kidneys; and when they fail it is time enough to operate. Yet Edebohls in his recent papers does not show any appreciation of the fact that in these complicated cases anything is necessary except to do a nephrorrhaphy for the kidneys, and then, upon occasion, remove the appendix for the chronic appendicitis which he holds often results from, and "may be the only symptom of, movable right kidney," a new doctrine which is, to say the least, by no means proved.

Since writing the foregoing part of this article I have read Dr. W. Gill Wylie's paper on "Anemia as Observed in a Gynecological Clinic, etc.," which appeared in the *Medical Record* of May 20. It is gratifying that this most distinguished gynecologist freely admits the only important point I have made here, which there seemed any likelihood of being disputed — that is, that ptosis of the stomach and colon is a frequent cause of uterine displacements. Referring to cases of "melancholia, hysteria, hypochondria, etc.," he says: "These cases are frequently associated with relaxed abdominal organs when there are loose kidneys, ptosis of stomach, with omentum and intestines crowding down in the pelvis *on top of a retroverted or flexed uterus, and the patients have been treated indefinitely with pessaries for falling of the womb*," etc.

In the same paper Wylie also discusses cancers and ulcers of the stomach and intestines, constipation, chronic appendicitis, obstruction of the gall-ducts, chronic colitis and proctitis, etc., as causes of anemia, and his method of treating constipation especially, all of which proves that he is developing rapidly into an able and skilful specialist for diseases of the entire digestive system. Verily the gastroenterologists are in danger of finding their occupation gone.

The general surgeons, also, are turning to the digestive organs as a fruitful field, and are already pulling up and stitching in place prolapsed stomachs and taking tucks in dilated ones. There are, indeed, conditions in which these new operations may be indicated, though most cases of the kind are curable by non surgical methods. When the pylorus is obstructed by a tumor, the cicatrix of a healed ulcer, or other cause which is insuperable by milder measures, or in persons who cannot afford either the time or expense of prolonged treatment by massage, gymnastics (or sometimes a period of rest in bed), intragastric electricity, etc., required to effect a cure, it is entirely proper to invoke the aid of the surgeon. Let us, also, render a full tribute of praise to the untiring energy and genius of the men who have wrought such marvelous results in abdominal surgery in these latter days — especially our American *confrères*, who now stand unsurpassed in their line. But at the same time it is just that the equally beneficent and often life-saving work now being done in this region by far less dangerous, even if less rapid and brilliant, methods should be given its proper meed of recognition. The gastroenterologists of the United States, though yet comparatively few in numbers and lacking in efficient organization, are achieving here and there, individually, results which have not yet commanded from the profession at large the attention they deserve.

Edebohls puts forward the claim, supported by the dictum of Glenard, that though there may be cases of movable kidney without enteroptosis, there can be no enteroptosis without movable kidney. This statement, notwithstanding the high authority from which it emanates, will not bear the test of clinical experience. Most of the special workers in this field see cases that disprove it. My own records alone show numbers of such. Two of the three cases reported below had gastroptosis without nephroptosis.

CASE I.—A married lady, aged fifty-six, consulted me September 20, 1898. Her weight then was 92 pounds, and she had been in ill health for several years, complaining particularly of her stomach. She had had the best of medical advisers before, but had never been examined by a stomach specialist, and the only diagnosis reached, so far as she knew, was dyspepsia and nervous prostration. Her worst complaint was a "sore, tired, distressed feeling in the pit of the stomach and a constant dragging sensation when on her feet;" also great weakness, a poor appetite, and constipation. She had passed the menopause eight years before. The examination after inflation with CO_2 showed a marked prolapse of the entire stomach with dilatation, the lesser curvature being just below the lowest ribs, and the greater curvature four inches below the level of the umbilicus. The liver was enlarged decidedly, and the heart was somewhat hypertrophied, the area of dulness extending to the nipple line and the apex beat being found in the same line. The kidneys were in normal position, as demonstrated by repeated careful examina-

tions. Transverse colon pushed downward below stomach. Other organs negative. Analysis of stomach contents showed a slight excess of hydrochloric acid, but fortunately not enough to contraindicate abdominal massage. The treatment consisted of a bland and easily digestible diet, special exercises for the abdominal muscles, a special abdominal supporter containing springs which exerted strong upward pressure; full massage, including deep kneading of the abdominal region; galvanism from spine to solar plexus, and also over the course of the pneumogastrics in the neck. Her skin was sallow, almost cachectic, and her countenance showed mental depression. The urine contained an excess of indican. She received in the way of medicine strychnine and hypophosphites for a part of the time, and a mixture of nuclein and bone-marrow later. The Drysdale aperient was given for the bowels. This was a very exceptional case, in that the stomach could not be trained to tolerate a tube or even the fine rheophore of an intragastric electrode, and therefore intragastric electricity, one of the most efficient remedies at our command, could not be given.

October 6. Her appetite has come up, and the dragging sensation is much relieved.

November 14. Still weak, but has gained five pounds. Scarcely any discomfort now. Lower border of the stomach one and a half inches below the umbilicus.

November 21. Stomach extends to umbilicus only. Area of liver dulness normal. No more dragging or distress in stomach. Appetite better.

December 27. Feels much stronger and better. Can walk eight squares now without getting tired.

January 24. Still improving; stronger; better color, and good sleep.

At the last examination, made shortly after this, her stomach had come up so far that the lower border was entirely above the umbilicus. She had not fully recovered her normal weight and color, but felt so well as compared with her former condition that she could not see any necessity for continuing treatment longer.

The two following cases exemplify further what can now be accomplished without surgery. My records contain scores of cases of Glenard's disease in which not only have the symptoms been either removed or markedly ameliorated without the help of the knife, but also in many of them the prolapsed stomachs have been gradually brought up to nearly their normal positions (as in Case I above), and the dilated ones, when not due to obstruction, have almost uniformly been contracted until the greater curvature has been brought well up above the level of the umbilicus. Occasionally even the loose kidneys have ceased to be movable or even palpable, and when this failed to be accomplished the pain and tenderness in the affected kidneys in nearly all the cases have been wholly relieved.

Case II. — Unmarried lady aged twenty-three; came under treatment January 17, 1899. Always well until the previous April, when she had scarlet fever, and following that, according to her own statement, albuminuria. This disappeared two weeks ago. For half a year past she has complained very much of morning nausea, with occasionally nausea all day. Menses irregular of late and very painful. Always very constipated; often several days without a stool. Does not take laxatives except very rarely. Much flatulency, the gas passing freely both ways. Used to ride a wheel, but could not now, being too weak. She was extremely thin in flesh and very anemic. Examination showed liver enlarged slightly, lungs normal, and heart enlarged about one inch to the left; apex beat also too far to the left. Stomach dilated from normal above to two inches below the level of the umbilicus. Uterus anteflexed and very sensitive to the touch. Left ovary also sensitive, though not appreciably swollen. Much leucorrhea. Findings otherwise negative. Analysis of the stomach contents after Ewald test breakfast showed a total acidity of 40, but no free hydrochloric acid by the Mintz method, and a small amount of mucus. The urine was found normal by repeated examinations, except that there was an excess of triple phosphates.

The treatment included faradism applied directly to the inner walls of the stomach by means of my improved intragastric electrode, massage, special exercises for the abdominal muscles, reform dress, and tonic medication, including especially hydrochloric acid and pepsin; also a careful but regular use of mild laxatives. The result was fortunate in spite of a severe and stubborn attack of influenza which came on during the treatment, and of a pending marriage engagement with its disturbing influence. She was well enough to discontinue active treatment early in April, and my last entry showed the lower boundary of her stomach to be one and a half inches above the umbilicus, and liver and

heart both within their normal limits. Her bowels were regular without laxatives, and all nausea had disappeared.

CASE III.—Lady aged thirty, married six years but never pregnant, consulted me September 14, 1898. The chief complaint for which she desired relief was a pain alleged to be in the region of the right ovary, and for which she had received treatment *per vaginam* off and on for five years. She had indigestion after sweets or fried things, and suffered from dizzy spells. She was also nervous, often constipated, and had a sallow complexion.

Examination showed nothing abnormal in the pelvis, except that the uterus was inclined slightly backward. No swelling or sensitive spots in the adnexa. Liver, heart, and lungs were normal. The stomach was dilated to one inch below the umbilicus, and a light, non-nitrogenous luncheon was not yet out of it at the end of three hours, showing bad motility. Splash pronounced even before drinking anything. Right kidney quite movable and also tender. The appendix was also slightly thickened and tender. The stomach contents after the Ewald test breakfast showed no free hydrochloric acid, but a total acidity of 38; some gastric catarrh.

Treatment: Abdominal supporter, faradism with my intragastric electrode, abdominal exercises, massage, lavage, laxatives, and tonics, including hydrochloric acid and pepsin.

Result: December 23 she reported that she felt as well as she ever did, and though all her faulty organs were not anatomically correct, she could not afford to go on with treatment. Her stomach then extended to one inch above the level of the umbilicus instead of an inch below as at first; it emptied itself in about the normal time. There was no longer complaint of pain in the region of either the appendix or the right kidney, which was still somewhat movable. She was symptomatically well, and her gastric dilatation was virtually cured.

Most of the points already made are strikingly confirmed in a recent paper by Stengel and Beyea.* They report very fully a case occurring in the practice of the late Dr. Wm. Pepper, which was carefully studied by him and by Dr. Stengel. It was that of an unmarried woman of twenty-five with an extreme degree of splanchnoptosis, the stomach having been displaced to within one and a half inches of the pubes, the intestines also displaced downward, and the right kidney dislocated and movable. No reference was made to the condition of the pelvic organs or appendix. There was no history, the authors say, of traumatism, illness, nor of abdominal distention by pregnancy or fluid effusion, to explain the displacement, and they state that "the cause, therefore, must be considered as most probably compression of the thorax by tight clothing and relaxation of the ligaments."

A nephrorrhaphy was first skilfully done by a prominent surgeon and was without marked results, though usually this operation is followed by relief of the symptoms due to the renal mobility. The right kidney continued to be palpable, below its proper position, and often painful. The flatulency, constipation, and other severe gastrointestinal symptoms persisted. The enormous gastroptosis continued, and the organ even increased in size after the nephrorrhaphy. A year later, in April, 1898, Dr. Beyea did an ingenious operation to bring up and hold the stomach in place. Tucks were taken in the gastrophrenic ligament and in the gastrohepatic omentum. Nine months later the patient was found to have gained in health and weight, and by the end of thirteen months she was decidedly better in all ways. Examination showed the greater curvature one and a half inches below the level of the umbilicus.

This was a very creditable result for so bad a case, but it is worthy of particular notice that it was not so favorable a result as was obtained in my Case I, in which non-surgical methods only were employed.

In addition to the five propositions laid down in the beginning of this paper, which can be proved beyond question if not already sufficiently well established, a few further important conclusions are fairly deducible:

1. The fact that over one-half the patients examined at my offices during a period of about three years suffered with displacement or dilatation of either one or several of the abdominal organs, shows the enormous frequency of these serious diseased conditions—a state of affairs little understood or appreciated by the profession at large.

2. The fact that, in so far as the patients or their friends were aware, not more than one per cent of the large number of 362 displacements and dilatations of abdominal organs had been previously diagnosticated,

*"Gastroptosis; Report of a Case in which a New Operation was Undertaken and the Patient Greatly Improved," *American Journal of the Medical Sciences*, June, 1899.

indicates an extraordinary indifference to this important class of cases on the part of physicians generally.

3. There is a deplorable lack of knowledge of what can be, and is being, done in abdominal displacements and dilatations by simple, safe, and efficient, even though often tedious, non-surgical methods.

There seems to be a prevalent impression that physicians who devote themselves to the diseases involving the digestive organs are occupied chiefly with washing out stomachs and testing gastric contents for hydrochloric acid. Manifestly it behooves such specialists to let the real truth be known more widely, in the interests both of conservative medicine and of humanity.

1928 CHESTNUT STREET.

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*A NOTE ON THE EMPLOYMENT OF SOLUTIONS OF TOLUIDIN-BLUE IN EXTERNAL INFLAMMATORY DISEASES OF THE EYE.**

BY CLARENCE A. VEASEY, A.M., M.D.,
Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic; Demonstrator of Ophthalmology, Jefferson Medical College, etc.

In the *Philadelphia Medical Journal* of August 13, 1898, the writer called attention to the use of solutions of toluidin-blue in the treatment of the external inflammatory conditions of the eye. At that time he had been using these solutions with excellent results for about six months in most of the cases coming under his observation, and since then a much more extended experience has given no cause to change the conclusions then formed.

Inasmuch as some of the members may not be acquainted with the drug, the writer may be pardoned for repeating that it is a bluish crystalline powder, soluble in alcohol or water, and according to Merck, "is prepared by oxidizing a mixture of thiosulphonic acid and orthotoluidin with a chromate to an insoluble sulphonic-acid green, then boiling the latter with a zinc chloride solution, and subsequently oxidizing the leuco-compound. While considered a zinc chloride double salt of dimethyltoluthionin, its composition shows it to be a hydrochlorate."

The strength of the solution that has given the best results, and proved the most satisfactory, is 1 part in 1000. Solutions of varying strengths, from 1 in 10,000 to 1 in 20, have been tried, but the stronger solutions produce a much more intense stain of the tissues and surrounding skin, and do not appear to be any more effective than the solution of the strength of 1 in 1000. The strongest solutions that were tried did not produce any irritation.

In the early experiments the solutions of toluidin-blue were employed alone to flood repeatedly the conjunctival cul-de-sac in the manner that is customary with solutions of boric acid, but later experience showed that it was just as effective to cleanse the affected part first with some cleansing lotion—say boric acid or salt solution—using it with sufficient force to get rid of the accumulated secretions, and then to flush thoroughly with the solution of toluidin-blue, and after it has remained in contact with the parts for a while to wash off the excess with the boric solution. As every particle of mucus or muco-pus is stained a deep blue, none can remain on the conjunctiva without being detected. The stain on the fingers and surrounding skin is readily removed with a moist pledget of absorbent cotton.

As to the frequency of making the instillations, the writer has been guided in a given case by the custom of using other applications—the more copious the discharge, the more frequently the instillations have been made.

The solutions have been employed in the different varieties of conjunctivitis and seemed to be of special value in those varieties accompanied by marked discharge, such as the acute contagious and the purulent, the discharge after a few applications becoming markedly lessened. In connection with its employment in purulent conjunctivitis I am told by one of my former clinical assistants, Dr. A. H. Read, who at my suggestion tried it for urethral irrigations in gonorrhea, that it produced very satisfactory results. In corneal ulcers and abrasions, it not only promotes the reparative process, but, as was pointed out in the previous paper, stains them a deep blue (in this respect being similar to the green reaction of fluorescin), thus enabling one from day to day, at the time of treatment, to note the progress in size.

In purulent dacryocystitis the results are equally good. In recent uncomplicated cases the writer has seen the almost entire cessation of discharge after a few thorough washings. Experience has shown that it is better to cleanse the duct with the boric or saline

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*Read by title at the meeting of the Pennsylvania State Medical Society, at Johnstown, May 17, 1899.

solution first, and then to follow with copious irrigations of the solution of toluidin-blue. If the solution does not regurgitate into the conjunctival cul-de-sac or drip into the nose, it is allowed to remain in the duct. If, however, there are some sinuses or pockets, in which the solution has accumulated and from which it is constantly oozing, either from the canaliculus or from the nasal duct, it is better to follow the toluidin-blue irrigations with some colorless solution.

This note is presented in the hope that other members of the Society will test the drug in their own work, not only in inflammatory conditions of the eye, but in other conditions accompanied by discharge and requiring a cleansing and stimulating wash, and report to us the results of their experience.

116 South 19th Street.

TREATMENT OF SUMMER DIARRHEA IN INFANTS.

By David Bovaird, Jr., M.D., New York,
Pathologist to the Foundling Hospital; Attending Physician to the Seaside Hospital of St. John's Guild; Assistant to the Chair of Pediatrics, University and Bellevue Hospital Medical College.

In discussing the treatment of these conditions we shall do well to bear in mind the exciting causes and the pathological lesions which underlie them. We are fairly well agreed that the chief factors in the production of summer diarrheas in infants are: (1) improper food; (2) increased heat; (3) foul air, and like unhygienic conditions. With reference to the pathological findings we are often puzzled and confused by the variety and extent of the lesions found in the gastrointestinal tract and the apparent lack of harmony between the clinical history and the results of autopsies. Doubtless the difficulty here lies in the fact that our ordinary autopsies do not bring out one very essential feature of these cases—the presence of great numbers of bacteria and the toxins produced by them. Suffice it to say here that we regularly find a simple catarrhal inflammation of the mucous membrane of a greater or less portion of the gastrointestinal tract; that the stomach, lower part of the ileum, and colon are the parts most affected; that the changes are usually more marked as they advance down the intestine; and that we rarely see any lesion more severe than a necrosis and exfoliation of the superficial epithelium of the mucous membrane. Added to these tissue changes we have the presence of great numbers of bacteria, not of one but of many kinds, and the toxins that are produced by their growth.

With these points before us we may take up the question of treatment to better advantage.

1. *Prophylaxis.*— Much has been done, but more remains to be done, in this regard. The food of infants—*i.e.*, children under two years—during the summer months at least should consist of milk alone. That milk, when given, should be fresh and free from the bacteria that may do harm. Fresh milk can ordinarily be had by any careful person, but to make sure of the second point it is necessary, as a rule, to subject the milk either to sterilization by boiling or to Pasteurization. Of the two methods the latter is doubtless preferable where it can be properly carried out. If there is uncertainty about it, we had better advise boiling the milk during the summer months. Furthermore, having secured a pure and sterile milk, it seems advisable to the writer to counsel moderation in the use of it during the danger season. We have lately been so thoroughly instructed as to the rate at which an infant should gain by week and month, and the quantity and proportions of the milk required to secure this result, that some of us forget that we are not dealing with a machine, and continue to feed during the summer without regard to the natural inclination to take less food, both in quality and quantity, during this time. Only when the baby suddenly becomes ill do we realize our error. It is impossible to give a general rule, but we ought to treat an infant much as we would like to be treated with respect to summer food.

As far as possible, children ought to spend the summer in the country, but the great majority in our large cities must still endure, as best they may, in their miserable homes. Here and there in New York a small breathing spot of a park has been opened in the midst of many acres of stifling tenements. The little done only emphasizes the need of more. Recreation piers have also afforded some slight relief, and we are even making through the Tenement House Commission a little attempt to strike at the root of the evil by reforming the construction of the homes of the poor. The mind of the community is only slowly awakening to the needs of the children, but there are some hopeful signs of progress.

2. *Treatment.*—First of all, whatever the food the child has had, stop it. I am a thorough believer in the policy of "bold

starvation." I believe that in most severe cases we would do well to give nothing but water for twelve, twenty-four, or even forty-eight hours.

When feeding is begun, it is best to use some liquid food which can leave no irritating residue in the stomach or intestine. For this purpose such preparations as rice- or barley-water, or whey, etc., are of service. Even these should be given in small quantities and at definite intervals. During the early days there is much more danger of feeding too much than too little. Only when the acute symptoms have subsided and there is a decided improvement, marked by lessened temperature and a gain in strength, is it proper to begin again the giving of milk. This should be given only in very dilute form and in small quantities at first. There is no more difficult problem in infant feeding than that of giving milk to an infant just recovering from diarrhea. With very young infants the milk should be diluted till both fats and proteids are one per cent or less, while four or five per cent sugar may be given. The strength of the food can be increased gradually as improvement occurs. If the administration of milk brings an increase of the fever or diarrhea, it should be diluted still further or discontinued for a time. All the milk given should be either Pasteurized or sterilized.

In the beginning of treatment, after having stopped feeding, the alimentary tract should be cleared out thoroughly. This can be accomplished by washing out the stomach, giving calomel in small doses (gr. $\frac{1}{10}$ every hour for eight or ten doses) to empty the small intestine, and employing rectal irrigation to serve the same purpose in the colon. If vomiting persists after this initial clearing, the stomach washing may be repeated, but as a rule this is not required. The irrigation of the colon should be repeated two or three times a day, so long as fever continues. If water, or better, salt solution at a temperature of 85° to 90°, be used, the irrigation will have a favorable influence not only by reason of its cleansing effect, but by reducing the temperature. Care should be exercised in employing irrigation not to make the water so cold or the process so prolonged as to produce marked depression. Unless a competent nurse can be secured, the irrigation should be done under the personal supervision of the physician.

If the temperature is very high, either sponge or tub baths should be regularly employed for its control. The temperature of the bath should be the same as for the irrigation. The time should not exceed ten or fifteen minutes, and, as with irrigation, care should be taken not to produce too great depression. Whiskey or brandy, well diluted, should be given either with the bath or immediately after it to prevent this.

Apart from its use with the bath, alcohol in either of the above forms should be regularly given in all cases of marked prostration. It should be diluted from six to eight times and given in small doses frequently repeated. In these diarrheal diseases of infants it is as much our mainstay for systemic stimulation as in the typhoid fever of adults. There is no adequate substitute.

The only other medication which can be unreservedly commended is the use of bismuth in large doses, ten grains every two hours. The familiar subnitrate is as good a preparation as any. To overcome the difficulty of giving such a bulky powder to an infant, it is best to suspend it in mucilage.

To recapitulate the points of importance. We are dealing with an acute inflammation of the gastrointestinal tract, accompanied by more or less systemic infection produced by the presence and activity of bacteria. We aim to treat the inflammation by rest. Rest is secured by first withholding food, washing the stomach, emptying the small intestine by medication, and irrigating the colon. Then for a time we give foods that will leave little or no residue, and only very gradually and carefully return to the use of milk. Further, we endeavor to limit the action of bacteria in the intestine by the internal administration of bismuth and the systematic use of irrigation of the colon. Finally, we counteract the systemic infection by the use of cold baths and the administration of alcohol.

Recognizing the influence of high temperature and foul air in the production and maintenance of these summer diarrheas, certain of our charitable organizations have sought to give relief to the little patients by providing hospital boats on which they may be carried from the heated air of the city to cool breezes of the sea, while at the same time they receive the attentions of skilled physicians and nurses. Lately seaside hospitals have been added for the reception and care of the more desperate cases. The results thus far have been most gratifying and serve to indicate still more emphatically the need of improvement in the surroundings of the poor at home.

A PRELIMINARY NOTE ON THE USE OF ASPARAGUS AS A DIURETIC.

By H. A. Hare, M.D.,
Professor of Therapeutics in the Jefferson Medical College, Philadelphia.

The well known fact that asparagus tops when they are eaten usually produce free diuresis would indicate that the plant might be used as a diuretic in cases in which the urinary flow is scanty. I am well aware that in so using it I have by no means done anything original, but a somewhat intimate acquaintance with therapeutic literature and practice has not brought me in contact with its employment. At the time I began using this plant for the purpose named, it was not possible for me to obtain a fluid extract made from asparagus tops, but Parke, Davis & Company placed in my hands a fluid extract made from the root stalk, and it is with this preparation that the tests here recorded have been made. The same firm has kindly made an extract from the tops, which I am at present testing.

The first case in which I tried the drug was that of M. C., a man of thirty-five years, who was suffering from cirrhosis of the liver with swelling of the ankles and legs, and secondary gastric disorder with nausea. A month before he came under my care he noticed that his abdomen was beginning to swell, and he had a "smothered sensation" when lying down, probably due to the ascites. An examination of his urine revealed marked albuminuria, the albumin being "one-third," but no sugar. The microscopic examination was practically negative. Under careful treatment with rest in bed the edema became much improved, but after reaching a certain point no gain was made. The urine being measured every day, it was found that the daily amount varied from thirty-five to forty-eight ounces during a period of fifteen days. On the sixteenth day a drachm of the fluid extract of asparagus three times a day was administered. In the next twenty-four hours the daily amount of urine rose from thirty-nine to sixty-two ounces, and five days later reached seventy ounces and remained almost as profuse as this, varying from fifty-five to sixty-five ounces for the next twelve days, after which time the drug was stopped, with the result that the quantity of urine gradually fell to between thirty-five and forty-five ounces in the twenty-four hours. After a lapse of nine days the asparagus was given a second time, and the quantity of urine at once rose in the first twenty-four hours from forty to forty-five ounces, then to fifty ounces, and then to sixty-three ounces. The quantity remained at from sixty-three to fifty ounces for one month, during which time the drug was continued. It was again stopped, and as before the quantity of urine fell in four days to forty ounces. Under the treatment the dropsical symptoms disappeared.

In another case under observation a shorter time, the condition being one of disordered digestion and marked edema of the legs resulting from a double mitral lesion, and in which only twenty to twenty-five ounces of urine was passed in twenty-four hours, the use of digitalis with bitartrate of potassium failed to produce any diuretic influence. The bitartrate was then replaced with infusion of juniper berries and acetate of potassium, a pint a day, without effect. Fluid extract of asparagus was then given, and the urine in the course of three days rose from twenty-seven to forty ounces, and remained at thirty-five to forty ounces while the drug was continued. In a case of advanced atheroma with aortitis and probably fatty heart, no marked effect was produced by the asparagus.

THERAPEUTICS OF SUMMER DIARRHEA.

By C. G. Jennings, M.D.,
Detroit, Michigan.

The preventive treatment of the summer diarrhea of infants demands the most careful supervision of the diet and the whole hygienic influences surrounding the child during the hot months. As Seibert, of New York, has observed, summer diarrhea becomes epidemic whenever the average minimum temperature reaches 60° F. During the colder months even badly fed city infants do not suffer seriously from diarrheal diseases. They may suffer from malnutrition and continuous indigestion, but diarrhea does not frequently menace their lives. It is the summer heat that is the important etiological factor in the production of summer diarrhea. The high atmospheric temperature acts to produce diarrhea, first, by debilitating the infant's digestion and general nutrition, and secondly, by favoring decomposition in the infant's food. Nursing infants escape because they are, as a rule, well nourished and resistant, and because their food is easily digested and is sterile. Artificially fed infants, as a rule, habitually digest badly and

only exceptionally are perfectly nourished, and their food is digested with difficulty and frequently infected. The summer heat that diminishes still further their powers of resistance favors the growth of saprophytic and other microbes in the milk that is their food, and the higher the temperature the feebler their resistance, and the more rapid and toxic the milk decomposition.

The principles of the prevention of summer diarrhea are to keep the infant's nutrition and digestion up to the highest possible standard, and to administer during the heated term a sterile food so modified as to suit the enfeebled infant's digestion.

Whenever possible artificially fed infants should spend the summer in the country, away from the overheated and microbe-laden city air. When compelled to remain in the city, they should have all the out-of-door air possible. A few hours each day under the trees, in shady streets or parks, will do much to improve their condition. Their clothing should be suited to the temperature. When this approaches 90°, a single light garment, with additional abdominal covering, will keep them comfortable. Frequent tepid bathing is of the greatest value. During the heated part of the day older infants and children may be given a tepid or cool tub. They may be allowed to paddle in the water for one-half hour or more, and the bath may be repeated in the evening should the heat continue. Cool sponging is often better for very young and feeble infants. The tonic and refreshing influence of a cool bath on a hot day is familiar to all.

The details of domiciliary hygiene are not always under the control of the physician, but he should do his best to improve them. Perfect cleanliness of the infant and its surroundings is of the greatest importance, and the most exquisite care of the food and food utensils is essential. During the hot months milk given to infants should be sterilized by boiling for from fifteen to twenty minutes. With a remote milk supply, Pasteurization cannot be depended upon. Whatever objections there may be to sterilized milk are outweighed by safety from infection that sterilization brings. In the country, or where milk can be obtained within an hour or two of the milking, one meal of fresh milk may be given. The milk for all other meals should be sterilized.

Clinical experience has confirmed the teaching of a number of authorities that one of the cereals added to an infant's milk will frequently aid its digestion, and infants during the latter six months of the first year will often show improvement in their digestion and nutrition when a small quantity of a thoroughly cooked cereal is added to their food. Barley-water, oatmeal-water, thin arrowroot gruel are accessible in all homes and are useful diluents. In exceptional and difficult cases one of the farinaceous patent foods of the market may serve where home products fail, and in others a good Liebig's food with the starch transformed into dextrin and maltose may serve an excellent purpose.

The summer diarrhea of infants is an acute gastroenteric infection—acute milk infection. The symptoms are due to the absorption of poisons generated in the stomach and intestine by putrefactive decomposition of their contents. This condition is a frequent sequel to an attack of acute indigestion. In certain cases the intensity and duration of the poisoning develop structural changes in the ileum and colon. The case becomes an enterocolitis. In others the toxemia is profound. The heart, the nerve centers, and the vasomotor nerves suffer severely from the intoxication, and the clinical picture is one of cholera infantum.

Summer diarrhea being then a gastroenteric intoxication, the indications for treatment are: first, to remove as quickly as possible the toxic materials from the alimentary tract; secondly, by appropriate dietetic and medicinal means to limit further elaboration of poisons; thirdly, to combat the symptoms resulting from the intestinal intoxication.

As in the treatment of every intoxication due to the absorption of the products of decomposition from one of the cavities of the body, promptness and thoroughness of action are essential. Immediately upon the development of symptoms of gastroenteric infection, vigorous eliminative treatment should be begun. To delay is to risk the development of an uncontrollable toxemia or the onset of grave anatomical changes in the intestine. Every acute indigestion in an infant during the hot months should receive prompt attention. The habit of looking lightly upon an apparently mild indigestion diarrhea cannot be too strongly condemned.

The first indication is to empty as quickly as possible the stomach and bowels. The colon should be irrigated every two to four hours until the whole of the intestinal tract is emptied. In the beginning of the attack

the stomach also may be washed out, although this measure is not so often necessary. With the irrigation of the intestine a cathartic dose of calomel and soda may be given—one-tenth grain of calomel with one-half grain bicarbonate of sodium every hour for five doses. For intestinal irrigation warm normal saline solution is best; it is non-irritating, and being quickly absorbed from the bowel adds to the circulation the fluid that should be taken up from the stomach. When fever is high, the temperature of normal saline may be reduced to 95° or 90°.

Administration of food by the stomach should be stopped at once, and no food should be given for from twelve to twenty-four hours, or until there is a decided improvement in the intestinal symptoms. Mothers object to this rigorous treatment, but it is essential to a perfect success.

When the stomach will retain it, water should be given freely. After the first twenty-four hours, careful feeding may be begun. Milk should not be given until the child is well on the road to recovery; in the place of milk, a thin cereal gruel, diluted beef juice, whey, a thin solution of one of the malted foods, delicate beef, chicken, or mutton broth. Food should be administered in small quantities frequently—one or two ounces every two hours. In feeble children and in cases showing severe toxic prostration, the addition of two to three drachms of whiskey or brandy in the twenty-four hours acts well. As the condition improves, milk may gradually be added to the food. It should be given at first plain, diluted five to six times with a four-per-cent solution of milk-sugar. By this dilution is made a mixture low in fats and proteids, but containing about four per cent of carbohydrates. Medicines for the control of the diarrhea are of secondary importance. After the bowels have been thoroughly emptied—*not before*—and particularly if there be pain and tenesmus, opium carefully given is of great benefit. A child of one year may be given ten drops of paregoric or one drop of chlor-anodyne after each movement. By this means as the movements diminish in number the opium is decreased. The opium always should be given alone. When symptoms of lower bowel irritation are prominent, a starch enema containing two to six drops of laudanum is an efficient measure; it may be given after each movement. Internal intestinal antiseptics are disappointing, although occasionally they may do good. Bismuth subnitrate in full doses, ten to fifteen grains, suspended in an aromatic water, may be given every two hours. To this may be added, when evidences of fermentation continue, half a grain of either carbonate of guaiacol or salol.

In many cases grave toxic symptoms are prominent. The temperature rises to 104° or 105°, the child is restless, drowsy, often comatose, and there are all the indications of a profound toxemia. For these symptoms, no measure with which the writer is acquainted is so efficient as the bath. In young, feeble, and prostrated infants the temperature of the water at the beginning of the bath should be about 100°. It may be gradually cooled during the course of from eight to ten minutes to 90° or even 85°. The effect of such a bath upon these children is often magical, and before the bath is ended they will arouse from their stupor and begin to play in the water as they are accustomed to do when well. The bath may be repeated every two, four, or six hours, depending upon the range of temperature and the intensity of other toxic phenomena. With the thorough use of water internally and externally, opium and other sedative and astringent drugs will rarely be necessary.

As convalescence is established the greatest care is necessary in the adjustment of the food to suit the gradually strengthening digestive power of the infant. Its appetite is frequently far beyond its power to digest, and the mother must be most carefully instructed as to the quantity and quality of the food. Relapse must be carefully guarded against, and the occasional administration of a gentle laxative like calomel will be most efficient in preventing it.

RUPTURE OF THE POPLITEAL ARTERY.

MEYER (*Deutsche Zeitschrift für Chirurgie*, 51 Bd., 3 u. 4 Heft, Leipzig, Vogel, April, 1899) reports a case of subcutaneous rupture of the popliteal artery, which was accompanied by neither swelling nor tension of any kind in the popliteal region. The diagnosis was made only when gangrene of the foot developed. It follows from this that whenever an injury has been inflicted in the popliteal space pulsation of the tibial artery should be felt for. In case this is absent, and especially if anesthesia and subnormal temperature develop in the foot, the proper therapeutic measures should be taken before gangrene develops.

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Leading Articles.

COLLATERAL TREATMENT DURING THE ADMINISTRATION OF THYROID EXTRACT.

It is a well known fact to those who have used thyroid gland in the treatment of the various pathological conditions which indicate its use, that it is a substance capable of producing, when given in fairly large doses, very distinct evidences of its physiological activity, represented chiefly by exaggeration of the heart's action, irregularity of the pulse, and other circulatory symptoms, which are not only disagreeable to the patient but are actually capable of serious consequences. At the same time, under its influence, there is usually, it is claimed, an increase in the oxidation process in the body, and it is supposed that by this means thyroid medication does good in obesity. In some instances in which the administration of the gland is followed by excellent results, we are prevented from administering it in large quantities by reason of these symptoms, therefore we regard with interest a communication recently made by Mabille in *Les Nouveaux Remèdes* of May 8, 1899. This author asserts that he has used arsenical preparations for the purpose of antagonizing thyroidal intoxication with excellent results, and he believes that these results are obtained through the energetic restraining influences of arsenic upon oxidation processes, and that this administration also diminishes the palpitation of the heart without in any way interfering with the other good influences of the thyroid gland. Before trying the arsenic clinically Mabille carried out a series of experiments upon dogs and rabbits, administering to them thyroid gland and Fowler's solution. He found that his theoretical views were supported by these experiments, and when he tried them clinically he also found good results; or, in other words, that he was enabled to push the thyroid gland in ascending doses more rapidly and with better effect when arsenic was given than without it.

It seems to us that this is an interesting field for clinical research, and we hope that Mabille's experiments may be tested and found correct.

TREATMENT OF SURGICAL SHOCK.

We have from time to time pointed out in the pages of the THERAPEUTIC GAZETTE the necessity of considering the condition of the vasomotor system in the treatment of diseases, and we constantly state to our classes that in the treatment of surgical shock, or collapse occurring during the course of non-surgical diseases, it is of vital importance not only that we stimulate the heart, but also that we maintain arterial tension, directing our attention to the condition of the vasomotor center and the blood-vessels which it supplies. We believe that many of the fatalities of disease are due to this condition of vasomotor relaxation, and therefore we have read with much interest the results obtained by Crile, of Cleveland, in certain experiments which he has recently made in regard to the pathology of surgical shock. This vasomotor effect is probably the reason why Crile has found that operations upon the abdominal area and the regions of the duodenum, pylorus, and gall-bladder are the most apt to produce this condition, since the vascular system of this neighborhood is capable of containing all the blood in the body.

One of the most important results of this research is the indication that surgical shock is mainly due to the impairment of activity of the vasomotor mechanism. Crile's research

therefore confirms the views we have already named, and those which have been so ably advanced by Mr. Leonard Hill, of England. It seems to us, too, that these studies do much towards supporting the views we have already expressed concerning the influence of chloroform in producing death by vasomotor paralysis.

THE ERUPTION PRODUCED BY THE BROMIDES AND IODIDES.

We have called attention a number of times in the editorial pages of the THERAPEUTIC GAZETTE to the fact that these two classes of drugs, and quinine, are substances capable of producing very curious alterations in the nutrition of the skin, and apropos of these remarks our attention has been called to an article in *La Presse Médicale* of May 24, 1899, by Malherbe, of Nantes. He reports an instance of bromide eruption which occurred in a young girl of twenty-one years, who was suffering from epilepsy. Her hereditary antecedents consisted of alcoholism on the part of her father, who however denied syphilis; the mother was neurotic, but otherwise presented no distinct pathological conditions. On the 15th of March, 1898, she consulted Malherbe for the first time, having developed a very large ulcer during the previous three months on the lower portion of the left leg; within the previous three days she had also developed a profuse acne eruption of the face. So intense were the lesions that it was at first supposed to be due to syphilitic manifestation, but this possible diagnosis was speedily given up.

The treatment consisted in the suppression of the bromide, the use of arsenical waters, with a milk diet, and, locally, a poultice made of potato to which had been added boric acid. The eruption speedily disappeared under this treatment, so that within a few weeks nothing was left in the area which had been involved save a brown pigment spot. The stopping of the bromide, however, resulted in the return of the epileptic manifestations.

Another case was that of a patient of forty-five years, who was receiving doses of iodide of potassium because of asthma and pulmonary emphysema, and who had never suffered from any syphilitic manifestations. This patient developed upon his right shin a patch of local gangrene of considerable size. Here, again, the diagnosis of the cause of the condition was at first obscure, but that it was due to the iodide seems to be proved by reason of the fact that as soon as this drug was stopped and the gangrenous spot locally treated healing speedily took place.

Treatment in this case consisted in the arrest of the iodide of potassium, washing the spot with hot borated water, and using an ointment composed of:

> Oxide of zinc, 15 grains;
> Salol, 30 grains;
> Vaselin, 1 ounce;

associated with absolute rest and a milk diet. Somewhat similar cases to this have been reported by Gemy in 1891 and by Panichi in 1897.

THE EFFECT OF THE ENTRANCE OF AIR INTO THE VEINS.

The original and editorial pages of the GAZETTE have contained from time to time during the last twelve years papers in regard to this very interesting subject. The general trend of literature has seemed to indicate that air embolism is by no means as dangerous a condition as our forefathers considered it, and also that in a certain number of cases where it was supposed to have occurred, the presence of bubbles in the cardiac cavities and elsewhere was really due to the development of gas produced by the bacillus *Aerogenes Capsulatus*. Still more recently the *Centralblatt für Chirurgie*, No. 11, 1899, has contained an article by Sternberg, in which he details two cases where air entered the veins and gained access to the heart during operations for the removal of tumors about the clavicle.

In the first instance a woman aged sixty-one years, with normal lungs and heart, was operated upon for malignant adenoma of the right lobe of the thyroid, when a short, loud, wheezing sound was heard, and a very loud gurgle accompanied each heart sound; the respirations became superficial and the pulse slow, but there were no further bad symptoms and the patient soon recovered. The cardiac gurgling sound ceased in a few minutes. The cause of the entrance of air was the tearing of the external jugular vein. Death occurred from pneumonia on the fifteenth day.

The other case was a woman of fifty-five, who was being operated upon for an adenoma of the right lobe of the thyroid, when a rhythmical, gentle, sucking sound was heard; symptoms of syncope came on, the heart beat loudly against the chest, and a loud gurgling

sound was heard, while the normal sounds were absent. This sound was so loud that it could be heard by bystanders. In this case artificial respiration, faradization, and massage of the heart were tried, and complete recovery ultimately ensued.

The writer of this editorial has in a number of instances seen air accidentally introduced into the veins of human beings with no evil effects ensuing.

THE SURGICAL TREATMENT OF EPILEPSY.

Theodor Kocher (*Archiv für Klinische Chirurgie*, 1899) read before the twenty-eighth meeting of the German Surgical Society an extremely suggestive paper upon the operative treatment of epilepsy. He stated that the general feeling of the profession at present in regard to the hope of cure held out by operation in cases of epilepsy was distinctly pessimistic.

While in the early period of what might be called the operative fervor statistics seemed to prove that from sixty to seventy per cent of cases were cured, it has been conclusively shown in later times, and particularly by the tabulations of Graf and Braun, that the number of cases which remain well for more than three years ranges between two and four per cent.

The question is naturally suggested as to whether better results would not be reached by an improvement in the method of operating. A decided advance in this direction was dependent on the suggestion of Hughlings Jackson, as to the advisability of excising a portion of the macroscopically unaltered cerebral cortex, that portion being selected for removal which presides over the motor or sensory functions of the portion of the body to which the ora are referred.

Bergmann records three cures out of twenty operations by this method, only two of which have remained well for three years. Kocher records eight cures lasting more than three years.

In analyzing his own cases and 175 others, collected for him by Schär, Kocher finds in the first place that intervention is successful from any form of operation which reaches and removes the cause of epilepsy. Of nineteen cases in which, by trephining, splinters of bone were found pressing on the dura, adhesions were freed, or abscesses were evacuated, there was improvement in nearly seventy per cent. The results were still more striking when the dura was found lacerated, with splinters of bone projecting into the brain. There was apparent cure in over eighty-five per cent of these cases. Similarly good results followed removal of tumors, whilst operations on cysts are less successful, about forty-eight per cent of these cases recovering. It is, however, evident that failure to cure a larger number of these latter cases is due to the cyst forming again.

In addition to these cases of epilepsy in which the cause can be reached and removed, there is another class of cases in which the affection is evidently due to either focal or general cerebral increase in blood-pressure. When cases of this nature are analyzed, it is found that the cures (meaning by this term freedom from return of epileptic attacks up to the time of reporting the case) are fourteen per cent when the dura is not opened, and fifty-eight per cent when the dura is opened. Hence, incision of the dura has a distinct and peculiar effect—indeed, one so marked that the query is suggested as to whether the dural opening is not a curative factor in the cases of excision of the cerebral cortex. The possibility of this being the case is strongly suggested by the cases of Schädel and Nancrede, in which cortical excision seemed to be indicated; yet because of failure to find the cortical center by electrical stimulation, or for other reason, the surgeons refrained from this extreme measure. None the less cure resulted.

Moreover, it is a matter of common observation that after removal of true causes the convulsions cease immediately, or very shortly, whilst after excision of apparently healthy cortical foci, the convulsions may remain unaltered or may even increase in violence. Finally, the statistics of cortical excision show that thirty-three per cent are cured immediately after the operation, while in sixty per cent failure is practically absolute. Statistics seem to show that the results are better when permanent palsy follows cortical excision than when crippling is of a temporary nature.

As to the effect of trephining and opening of the dura, this, Kocher holds, is due to the lessening of blood-pressure which results; the dural opening acting as a valve which quickly regulates changes in blood pressure.

In corroboration of this Schär and Beresowsky, who carefully examined the cases of the cured epilepsy, report that these cases all

show what Kocher calls a valve formation—that is, the membrane covering the trephine opening is perfectly soft and freely movable, sinking when blood-pressure is lowered, pushing outward when it is increased; while in cases which were not cured, the opening was entirely, or in great measure, closed either by bone or by scar tissue so dense as to be practically unyielding.

As a further proof of this, it is noteworthy that comparatively slight injuries to the skull are often followed by epilepsy, while this sequel is rare after severe injuries. Thus Kocher notes that in eighteen cases of complicated, depressed, and extensive skull fracture, there followed but one case of epilepsy. These cases have been under observation for over seven years. Beresowsky found, in the majority of these cases, that the defect was closed by soft tissue, allowing equalizing of pressure. This surgeon, as a result of laboratory study, finds that the dura has an important influence in the form of healing which takes place after trephining. When this membrane is unopened, its outer surface forms true bone, which unites with that forming the borders of the skull opening, and thus completely closes the defect. When the dura is wounded or excised, this bony formation does not take place; hence, when it is desired to form this pressure equalizer, the dura should be excised.

Many authors have urged the uselessness of excising scars which have caused epilepsy, rightly holding that the healing of the operative wound is necessarily attended by further scar formation. It is, however, noteworthy that scars in themselves are not adequate causes for the attacks. The epilepsy is particularly likely to follow such scars as result from severe inflammation, particularly that incident to infection. The aseptic scars, developing with very slight inflammatory phenomena, do not, as a rule, cause epilepsy.

Not only is this the case, but aseptic foreign bodies are not likely to cause these convulsive attacks. Ito conducted many experiments, introducing foreign bodies into the brain substance, and placing them beneath and above its membranes. These operations were conducted with aseptic precautions, and epilepsy did not develop; while Luciani, who operated without taking these precautions, caused epilepsy in nearly all the dogs upon which he operated. The epilepsy produced in guinea-pigs by repeated blows on the head with a hammer, but not applied with such force as to cause bleeding, was shown by Ito to be incident to very marked increase of intracranial pressure, this rising to from three to five times the normal. The epilepsy ceased, and pressure was relieved by trephining and opening the dura.

These data prove beyond controversy that an etiological factor in the development of epilepsy is increased intracranial pressure. Cysts play an important rôle as causes of traumatic epilepsy. A large proportion of cases of traumatic epilepsy, operated upon by Kocher, showed these cysts, which were either circumscribed and local or were extensive and communicated with the ventricles, forming traumatic porencephalus. It is evident that all causes, aside from trauma, which effect an increase in the fluid contents of the skull, such as inflammation and tumors, must predispose to epilepsy, since thus there results a marked variation from the normal pressure. In the case of cysts, it is noteworthy that not only those placed near the motor centers, but those in the posterior part of the brain or in the frontal lobes, may cause convulsions by a gentle increase of blood-pressure.

It is the consideration of such facts that leads Kocher strongly to urge that surgeons should always bear in mind the effects of local or general pressure in operating for epilepsy; even when adequate causes, such as bone splinters, thick cicatrices, or cysts, are found and are removed, the question of regulating the blood-pressure of regions other than that particularly affected, or of the entire encephalon, should be carefully considered. For the local regulation of pressure the removal of a piece of bone and the section of the dura corresponding to this bone button is adequate. Kocher uses a small trephine, then enlarges the opening with bone forceps. Afterwards he splits the dura by two incisions at right angles to each other and cuts away the four angles thus left.

For the regulation of the general intracranial pressure, Kocher suggests two methods. In the case of cyst, or of fluid accumulation of the ventricles, he employs drainage, which must be continued for one or more years. A fine silver tube is secured in the opening and is protected by a simple dressing; or the same end may, perhaps, be secured by making very large openings in the skull, the portion of the dura corresponding to the bony defect being removed. Extensive bone defects in themselves, however, sometimes cause epilepsy, which is cured by plastic operation. These convulsions are due to

too marked a change in the blood pressure; hence, for lowering of the general pressure Kocher suggests the formation of repeated multiple valves such as are observed in the skulls of the people of the stone age. The openings may be formed under cocaine anesthesia, using drills to penetrate the bone, and a fine cannula by means of which drainage may be secured.

Kocher holds that increased intracranial pressure is the unknown factor which is commonly called status epilepticus, this condition being necessary to the outbreak of the affection, and being sometimes inherited, sometimes due to exciting causes such as inflammation, tumors, or trauma. This condition may be remedied both by surgical and medical means.

A most important conclusion from this study is to the effect that epilepsy is frequently due not to the opening of the skull from trauma, but to the closure of the same by the surgeon.

Gussenbauer, in commenting on Kocher's paper, calls attention to the fact that both excision of cicatrices and osteo-plastic operation with replacement of the bone at the time cure epilepsy.

Bergmann notes that there is customarily a hereditary condition of the nervous system, which predisposes to the development of epilepsy, this condition being especially likely to become manifest in the children of alcoholic parents. Thus, cases should only be termed traumatic in which this hereditary tendency is observed.

The tendency towards spasms may be influenced by lessening of pressure, by valve formation (as indicated by Kocher), or by section of the sympathetic, a recent procedure which seems to be attended with a measure of success. Removal of the direct cause of epilepsy is, however, always the most important indication in the surgical treatment of this disease. When this can be found and remedied, the results are extremely good, even when the status epilepticus has been reached; recurrence will, however, occur even after four years, as in the case observed by Bergmann.

As somewhat corroborating Kocher's theory, Bergmann reports the case of a child suffering from a porencephalic cyst, originating from trauma at birth. There was unilateral spastic palsy. The intelligence was blunted, and there were epileptic seizures. There was a defect in the skull, over which usually the skin was depressed. During the epileptic attacks the skin covering this defect became prominent. Bergmann has closed the greater part of this defect by plastic operation. None the less, the opening still exists, acting no doubt as a valve. The epileptic attacks have ceased, probably because of the drainage continued for several months.

A theory, based on clinical observation, and one which appeals to the common sense, is always helpful to the surgeon who has to decide for or against operation. The theory of Bergmann is likely to produce renewed activity in the field of operative treatment for epilepsy, and, it is to be hoped, better results than have hitherto characterized efforts in this direction.

Reports on Therapeutic Progress

DIPHTHERIA AND INTUBATION.

The *Annals of Gynecology and Pediatry* for April, 1899, expresses the belief, editorially, that intubation has been proven by multitudes of cases, reported and unreported, to be far more generally useful than tracheotomy. Fortunately the introduction of antitoxin makes the need of operative interference much less common than a few years ago. Yet there are occasional cases of dyspnea resulting from the obstruction of diphtheritic laryngitis where the attending physician must do something at once or the little patient will die.

Bokai's experience, that more than twice as many patients can be saved with intubation as with tracheotomy, together with the fact that the former operation causes less shock, is more quickly performed, needs less preparation and fewer assistants, has led him to give it the preference. He merely insists, however, that the patient must have continuous skilled attention while the tube remains in place. This would seriously limit the usefulness of the procedure in private practice were it not for the help of antitoxin. For we believe we may take it for granted that in hospitals everywhere, on this side of the water at least, intubation is preferred.

But if we accept the dictum that skilled attendance must be at hand in every case, the element of time becomes at once of great importance. Hence we note with interest that nearly sixty per cent of Dr. Bokai's recoveries were extubated within forty-eight hours, since he has been able to supplement the operation by antitoxin.

Of course in the cities, except in the case of the most wealthy, who can afford to pay for all needed skilled attention, such "chokers" are far safer in the hospitals. But cases of this sort do occur in the country and at a distance from the physician. It is then that the country physicians, who constitute a large part of our readers, must use that faculty almost always so well developed in them, common sense. Presupposing that the physician has the needed instruments and experience, he must consider many elements. Is the case so urgent that he dare not rely simply on antitoxin? Can he arrange to be within short calling distance for forty-eight hours? Is there at hand a reliable nurse who will do as directed and not as the child desires? Shall he have the silk attached to the tube? Fortunately in these days the question of operation for euthanasia is rarely raised. Yet even that may occur.

If he decides that under the circumstances tracheotomy is the only operation permissible, there still remains the question as to whether he shall do a preliminary intubation. There can be no doubt that it is easier to open the trachea of an intubated child than that of a child who is choking and laboring for breath, terrified and struggling, the trachea pulled now this way and now that. But the preliminary operation takes time and skill.

The two great objections to intubation are that it may cause greater obstruction by loosening membrane and pushing it down, and that serious difficulties may follow. They must not be forgotten as possibilities, and must be guarded against as indicated so far as possible.

Intubation for non-diphtheritic stenosis will not occur in the practice of most of us. Yet, if it ever does present itself as a solution to the problem before us, we may profitably remember that it has been successful in many cases and is relatively safe and simple.

The papers of Bokai, as to the value of antitoxin, are one more strong testimonial to the great efficiency of that remedy in combating what a few years ago was the most dreadful and most dreaded disease of childhood.

A CONTRIBUTION TO THE STUDY OF ALBUMINURIA AFTER ETHER NARCOSIS.

The *Annals of Gynecology and Pediatry* for April, 1899, has an article with this heading, in which POPOFF tells us of his researches in this line of investigation. In order to study the question a little more closely some researches were undertaken on the urine of 140 patients in the surgical clinic of the University of Geneva. He employed first reagents for all the urine examined, heat and nitric acid, Esbach's picric acid reagent, and when he found albumin before narcosis he controlled its reaction by acetic acid and ferrocyanide of potassium.

He did not use the centrifugal apparatus for the urine in the microscopical examination, as he only examined the deposits that formed at the bottom of the glass, and these were filtered before examination when necessary. The researches were carried out on the urine of 117 males and 23 females, the urine being from children, adults, and old people, varying in age from ten to seventy years. He only selected patients who were examined for any disease of the internal or external genital organs, and also left aside any urine that was purulent or appeared to be. He examined relatively few women in order to avoid the dangers of error from menstruation, leucocytes, etc. The first urine voided after operation was examined.

Of the 140 examinations, fourteen did not urinate before anesthesia, fourteen presented albumin afterwards where there was none before the administration of ether, and in 112 it was absent both before and after etherization. The fourteen cases of albuminuria before narcosis suffered from varicose ulcers, three from cold abscesses, two from fractures of the hip, one from necrosis, and three from lipoma. Of these fourteen patients ten had Bright's disease, viz., the four cases of varicose ulcers, two cases of cold abscess, two fractures of the hip, and three lipoma. The four others presented amyloid degeneration of the kidneys, this being present in the three cases of cold abscess and in the case of necrosis.

In all these cases Popoff measured the quantity of albumin ten days after the operation, and in one twenty-four days afterwards—that is to say, at the time when the patient left the hospital.

In the fourteen cases where albumin was entirely absent before operation and where it was found in traces after it, it completely disappeared in eight cases the day following the operation, and in the six other cases where it was in such minute quantity that it could not be established the first day after the operation or on the day itself, it had disappeared by the third day. In two other cases the

presence of albumin taken the first day after the operation was fifty centigrammes to the liter, and the second day it could no longer be established; the third day there were still traces, and on the fourth day it had completely disappeared. In another case it was present in traces and had entirely disappeared on the sixth day following the operation. Albumin was constantly present in ten per cent of the cases. Microscopically were found, first, epithelial cells coming from the urethra, bladder, and vagina; secondly, leucocytes, which were more numerous after the etherization. It is difficult to say whether they came from the urethra, bladder, or kidney. Wunderlich, however, believed that they came from the urethra. Thirdly, red blood-corpuscles were found in four ceses after narcosis, and in three of six cases were found hemorrhagic casts; fourthly, biliary pigment in only one case; fifthly, indican once; sixthly, crystals of oxalate of lime, uric acid, and urates; seventhly, hyaline, epithelial, granular, and hemorrhagic casts. He never was able to detect the presence of sugar after etherization.

After this study the following conclusions are formulated: First, in the subjects examined in this study, whether afflicted with Bright's disease or not, he never was able to notice any harm done to the general health after narcosis with ether; secondly, a persistent albuminuria will often be increased by the use of ether; thirdly, an ether narcosis may produce an albuminuria, but it is always transient; fourthly, ether may produce casts; fifthly, if casts are present before ether is given, they are increased in number after etherization.

According to Dr. Popoff's personal researches and Wunderlich's work, he says he cannot admit that the albuminuria produced by ether is due to a nephritis, and he believes that it is caused by the physiological action of ether on the blood-pressure.

Now how do ether and chloroform act on the heart? Lenz, Brunner, and Gall remarked that there was a diminution in the blood-pressure when chloroform was given. The blood-pressure increases in the large arteries at the beginning of anesthesia, and often later on becomes lowered. Scheinson also found that there was a decrease of blood-pressure in his experiments on animals, but he did not note any elevation at the beginning of the administration of the anesthetic. This decrease of pressure may be produced by a diminution of the tonus of the arteries, either from a paralysis of the vasomotor system, or from a decrease in the cardiac impulse, or both these causes may be united. Scheinson found the same phenomena in rabbits' ears during the administration of chloroform that Claude Bernard found after section of the sympatheticus in the neck—that is to say, a dilatation of the vessel on account of the action of the vasomotors of the bulb. He noticed that chloroform acted directly on the cardiac muscle by diminishing its activity, and that it diminishes arterial pressure and slows the circulation of blood as well.

Now how does ether act? Gall performed comparative experiments on the action of chloroform and ether as regards the blood-pressure; he showed that the decrease is less marked and less rapid with ether—127 millimeters of mercury with ether and 36 millimeters of mercury with chloroform. The English commission on chloroform which acted in 1863 proved the same thing. At the beginning there was an increase in the heart's action which was longer and more durable with ether than with chloroform, and then there was a depression which was less marked with ether than with chloroform.

Schiff believes that the decrease of blood-pressure produced by ether is due to a paralysis of the peripheral nerves of the blood-vessels. Knoll found in many experiments that ether diminished the cardiac force by a lessened tension in the vessels, and many others have come to the same conclusion.

ICE OR HEAT AS A LOCAL APPLICATION?

EWART, of London, in *The Lancet* of April 8, 1899, after a somewhat exhaustive paper on this subject sums up his views as follows: The value of cold as a means of subduing pain and checking inflammation has long been known, but its popularity as a therapeutic agent seems to have fluctuated. Among its most strenuous advocates within modern times have been James Arnott and Professor Esmarch. A summary of Arnott's views will be found in his "Contributions to Practical Medicine and Surgery" (London, 1864). Professor Esmarch's work on "The Use of Cold in Surgery" should be consulted by those interested in the subject. The greater part of his treatise is devoted to the surgical aspects of the treatment by cold, in which he expresses strong belief. He gives illustrations of various shapes of the ice-bag for the limbs, etc., but he had also found good re-

sults from its application to acute rheumatic joints and to the pericardium, and he gives the notes of three cases of acute rheumatism treated in that way. Arnott was not content with ice, but he produced congelation of the surface by a freezing mixture of two parts of ice and one of salt, and found this application, the duration of which was rarely more and sometimes less than five minutes, to be an unfailing means of arresting the pain of sciatica, of neuralgia, and of lumbago. He does not appear to have treated cases of rheumatoid arthritis, but he had tried it in chronic rheumatism with rather less striking results: "An anesthetic temperature will not always be so speedily curative as in the instances of lumbago which have been related." In lumbago he seems to have obtained immediate and permanent improvement analogous to that which he had noticed in the neuralgic cases. The complications which must have occasionally resulted from the local congelation sufficiently explain the neglect which has overtaken the method. Ice-massage is a much milder proceeding, free from danger, and it would seem equally efficacious. It is interesting to note that Arnott's method has recently been revived for the cure of some laryngeal affections. Abrams reports in the THERAPEUTIC GAZETTE the immediate cure of functional aphonia by freezing the skin with the methyl chloride spray over the spot where the superior laryngeal nerve sends its internal branch into the larynx. In some cases he has had to repeat the process. In other neuroses of the larynx, such as laryngismus stridulus, spastic aphonia, and the laryngeal crises of tabes, he has found it of value. He also refers to its efficacy in neuralgia and in peripheral neuritis, and to the linear applications of extreme cold practiced in France under the name of "stypage" for the relief of neuralgia.

Dr. Ewart has had experience of the value of ice-massage as a means of relieving the severe pleuritic pain which commonly accompanies acute pneumonia of the base. The results were encouraging. In the two patients treated the relief of the pain was immediate and the application was welcomed as a comfort. The relief in one of the cases lasted for several hours, but it was not permanent. This suggests that the frequency of applications might be arranged to suit each case.

Although dealing with the local effects of cold this communication would not be comp'ete without a reference to another mode of application successfully employed by Dr. Beverly Oliver Kinnear, of New York. Dr. Kinnear has recorded remarkable results from the systematic use of the spinal ice-bag in chronic rheumatism, and in lumbago both chronic and acute, and he has found the same method of great benefit in various other affections.

THE ABDOMINAL BANDAGE IN THE TREATMENT OF ENTEROPTOSIS.

A. K. STONE, in the *Boston Medical and Surgical Journal* of May 11, 1899, reminds us that at the conclusion of a paper entitled "Enteroptosis as a Clinical Factor in the Diseases of Women," read in the spring of 1897, he stated that he had not settled to his own satisfaction what was the simplest and best form of abdominal bandage to use in the treatment of this condition. Although he has given the subject much consideration, he says he does not feel sure that he is much nearer the settlement of the problem than he was then; still he thinks he has made out some of the conditions that must be complied with in order to have any success whatsoever in the use of the bandage.

Looking over the bandages to be found in the market, the first thing that strikes one is that they are all made so as to conform to the soft portion of the abdomen—that is, they have a convex curve on the lower border. The result of this is that the bandage practically takes its real lower bearings over the anterior superior spines and the crests of the ilia. This tight band, crossing about midway between the umbilicus and the pubes in many cases, allows the prolapsed intestine to get down into the lower part of the abdomen, press down upon the pelvic floor, and protrude the lower abdominal wall; or, in other words, instead of relieving the enteroptosis the bandage intensifies it. This takes place whether or not there are perineal straps. And this is why so many cases are unrelieved or made worse, when they are simply ordered to go to the instrument-makers and get an abdominal bandage.

Where there is no great prolapse of the pelvic floor, and where the abdominal walls are specially fat and heavy, such bandages give relief, but not where there is true enteroptosis and prolapse of the pelvic organs. To help this condition, the pressure must be so applied that it will be greatest immediately above the pubes. Therefore the lowest and tightest part of the bandage must pass di-

rectly round the body at the pubes, which will make the bearing to be taken just above the trochanters and below the crests of the ilia, and will bring the buckle in the back at the end of the sacrum or the very beginning of the natal fold. At first glance this seems very low, as if it might interfere with locomotion, but a short time given to observing the corsets exposed for sale in shop windows will show that many of them come fully as low as this and occasion no inconvenience. In fact, Dr. Stone says he has never had patients complain of this low bearing of the bandage. What does cause complaint, and is really very disagreeable, especially in hot weather, is the perineal band, which must be worn in practically all cases, so as to keep the bandage in place.

Glénard, who first called particular attention to the condition of enteroptosis, used for his bandage a broad band of elastic webbing with straps at the back and perineal bands, insisting that the elasticity was very necessary for good results. With this opinion Dr. Stone agrees, but does not think it necessary that the whole bandage should be elastic, but only so much as to allow freedom of motion. He has found that however thoroughly and well explanations may have been given, it will be necessary to see the patient a number of times and see the bandage in working position in order to get an idea of the faults and the changes which are necessary to put the bandage in condition to do satisfactory work. In fact, it is necessary to treat the bandage with as much respect as, for example, the orthopedic surgeon bestows upon any of his pieces of apparatus, in order to obtain satisfactory results in the relief of enteroptosis.

Should it be necessary to get special pressure, as, for instance, beneath a floating kidney, Dr. Stone usually begins by using napkins and towels, until he finds where it is necessary to place the pressure and how much padding is required. When this has been pretty well determined, he has the patient or maker sew a pocket on the inner side of the bandage, with greater capacity at the lower part than at the top; this is then stuffed with upholsterer's curled hair and the upper part closed. Some cases require special devices for the support of peculiar internal conditions, and it often means very careful study of the case to determine just what form of support will give relief, but when once made out and the bandage properly applied the result will be worth the pains taken.

THE USE OF FORMALDEHYDE GAS AS A DISINFECTANT FOR DWELLINGS, VEHICLES, AND HOUSEHOLD GOODS.

PARK, of New York, makes a report on the subject to the *Medical News* of May 13, 1899. As a result of the investigations undertaken in the Department of Health Laboratories on the use of formaldehyde as a disinfectant, and a consideration of the work of others, he believes correct conclusions may be summarized as follows:

1. *Disinfection of Infected Dwellings.*—Exposed surfaces of walls, carpets, hangings, etc., in rooms may be superficially disinfected by means of formaldehyde gas, all apertures being tightly closed, when employed in the proportion of twelve ounces of formalin or five of paraform to each 1000 cubic feet; the time of exposure to be not less than four hours, and the temperature of the apartment not below 52° F. Under these conditions non-spore-bearing bacteria are entirely or almost entirely destroyed when freely exposed to the action of the gas. Spore-bearing bacteria, such as anthrax bacilli, are not thus generally destroyed. But these latter are of such rare occurrence that in house disinfection they may practically be disregarded, and if present special measures can be taken to destroy them.

The penetrative power of formaldehyde gas at ordinary room temperature, even when used in double the strength necessary for surface disinfection, is extremely limited. Articles, therefore, such as bedding, carpets, upholstery, clothing, and the like, should when possible be subjected to steam, hot air, or formaldehyde disinfection in special chambers constructed for the purpose. If not, they must be thoroughly exposed on all sides. Diphtheria bacilli are fortunately among the most easily destroyed bacteria.

2. *Disinfection of Bedding, Carpets, Upholstery, etc.*—Bedding, carpets, clothing, etc., which would be injured by steam may be disinfected by means of formaldehyde gas in the ordinary steam disinfecting chamber, the latter to be provided with a heating and vacuum apparatus and special apparatus for generating and applying the gas. The gas should be used in the proportion of not less than tenfold the amount used for surface disinfection. the time of exposure to be not less than eight hours, and the temperature of the chamber not below 110° F.

In order to insure complete sterilization of the articles they should be placed so as to

allow of a free circulation of the gas around them—that is, in the case of bedding, clothing, etc., these should either be spread out on perforated wire shelves or loosely suspended in the chamber. The aid of a partial vacuum facilitates the operation. Upholstered furniture and other articles requiring much space should be placed in a large chamber, or better, in a room which can be heated to the required temperature. The most delicate fabrics, furs, leather, and other articles which are injured by steam, hot air at 230° F., or other disinfectants, are unaffected by formaldehyde.

3. *Disinfection of Books.*—Books may be satisfactorily disinfected by means of formaldehyde gas in the ordinary steam chamber as above described, and under the same conditions of volume of gas, temperature, and time of exposure. The books should be arranged to stand as widely open as possible upon perforated wire shelves set about one or one and one-half feet apart in the chamber. A chamber having a capacity of 200 to 250 cubic feet would thus afford accommodation for about sixty books at a time. Books cannot be satisfactorily disinfected by formaldehyde gas in houses and libraries, or anywhere except in special chambers constructed for the purpose, because the conditions required for their disinfection cannot otherwise be complied with. The bindings, illustrations, and print of books are in no way affected by the action of formaldehyde gas.

4. *Disinfection of Carriages, etc.*—Carriages, ambulances, cars, etc., can be easily disinfected by having built a small, tight, brick building, in which they can be enclosed and surrounded with formaldehyde gas. Such a building is used for disinfecting ambulances in New York City.

5. *Advantages of Formaldehyde Gas over Sulphur Dioxide for the Disinfection of Dwellings.*—Formaldehyde gas is superior to sulphur dioxide as a disinfectant for dwellings, first, because it is more effective in its action; secondly, because it is less injurious in its effects on household goods; thirdly, because, when necessary, it can easily be supplied from a generator placed outside of the room and watched by an attendant, thus avoiding, in some cases, danger of fire. Apart from the cost of the apparatus and the greater time involved, formaldehyde gas generated from commercial formalin is not much more expensive than sulphur dioxide, viz., 20 cents to $1 per 1000 cubic feet, against 10 cents with sulphur.

Formaldehyde gas is the best disinfectant at present known for the surface disinfection of infected dwellings. For heavy goods it is far inferior in penetrative power to steam and dry heat at 230° F., but for the disinfection of fine wearing apparel, furs, leather, upholstery, books, and the like, which are injured by great heat, it is, when properly employed, better adapted than any other disinfectant now known.

POISONING DURING CHLOROFORM ANESTHESIA IN THE PRESENCE OF A NAKED FLAME.

Under this title KENELM WINSLOW tells us in the *Boston Medical and Surgical Journal* of May 11, 1899, of a recent experience of his own, which he deems worthy of notice, not on account of its extreme rarity, but rather because a similar incident might befall any practitioner, and because it is probable most well-informed physicians are unaware of the reason for, or possibility of, such an occurrence. Dr. Winslow apologizes for the latter statement by admitting that until the happening of the event herein recorded he would have been included with the ignorant majority.

Dr. Winslow says that some months ago he was called by a fellow practitioner—Dr. C. A. Davenport, of Newton, Mass.—to assist at an obstetrical operation. A nurse, under the direction of Dr. Davenport, administered chloroform to the patient, who was on a bed at one side of a rather small room (12x13x8½ feet) in which were burning three gas flames, two in the center of the room and one more remote from the patient. In a short time all except the patient were conscious of a choking, stinging, irritating sensation in the throat and chest, resulting in incessant coughing and gasping for breath. The coughing and choking became so violent that it was utterly impossible for them to proceed with the attempted forceps delivery. They were, moreover, unable to trace the source of the trouble, and after searching unsuccessfully for evidence of escaping coal or illuminating gas were compelled to open all the windows and doors before continuing the operation. The latter was concluded under ether, not because chloroform was suspected to be the cause of the difficulty, but for the reason that the manipulations necessitated prolonged anesthesia. They soon recovered from the immediate irritation of the respiratory passages and without any ultimate ill-effects.

The patient was naturally not cognizant of the casualty until told of it afterward, nor did she suffer any harm whatsoever.

Not long after, being puzzled by the affair and having it in mind, Dr. Winslow noticed the following lines in the *New York Medical Record* (Feb. 18, 1899, p. 237), in an article entitled "Notes on Anesthesia," by Emil Aronson: "It is best not to use chloroform by gaslight; the free chlorine has not only killed the patient, but in a recent case also the attending physician, and made two nurses very sick for some time."

This immediately suggested the explanation of the unpleasant experience noted above. On talking with a number of medical men, Dr. Winslow failed to meet one who was aware of any danger attending chloroform anesthesia in the presence of a flame, and on looking up the matter in the "Index Medicus," "Jahresbericht der Pharmacie," "Index Catalogue of the Surgeon-General's Office, U. S. A.," and "Sajous' Annual for 1898," he found but few references, in addition to a few he has been able to gather elsewhere, and most of which he has consulted in the original before writing this paper. There was no reference to any article in any American periodical, and the only mention of the subject he has seen in one—except the few lines in the *Medical Record* quoted above—is a brief editorial in the THERAPEUTIC GAZETTE kindly brought to his attention by the editor, Professor H. A. Hare. The only allusion to the matter found in any text-book is that contained in Hare's "Practical Therapeutics," wherein it is stated that "Chloroform vapor in the presence of gas flame undergoes certain changes which result in the development of noxious and irritating fumes, consisting principally of hydrochloric acid and chlorine, which produce laryngeal and bronchial irritation." In regard to the chemistry concerned with the decomposition of chloroform by flame, Dr. Winslow finds that the statements of different writers are generally conflicting as to the probable reactions involved.

This may be readily accounted for, since chloroform may be split into various compounds, according to the temperature and other conditions to which its vapor is subjected in coming in contact with a naked flame. When chloroform is passed through a red-hot glass tube the following reaction ensues: $2CHCl_3 = C \equiv C + 2Cl - Cl + 2HCl$. The carbon is deposited in the tube. But if exposed to the naked flame in the presence of air and products of combustion (H_2O and CO_2), a somewha different reaction occurs, in fact apparently varying with the fancy of each medical writer. According to the recent edition of Watt's Dictionary of Chemistry, which we may consider authoritative, chloroform vapor in the presence of flame acts as follows: $2CHCl_3 = CHCl_2, CHCl_2 + 2Cl$. Then it is probable that $CHCl_2$, $CHCl_2$ (acetylene tetrachloride) further breaks up into hydrochloric acid, chlorine, and carbon, thus: $2CHCl_2 = 2HCl + 2Cl + 2C$, as before.

Finally, Professor Bosshard (*vide* Stobwasser) has analyzed the products resulting from the passage of chloroform vapor diluted with air through a flame, and finds that they are: oxychloride of carbon ($COCl_2$), chlorine, and hydrochloric acid. This result shows that some of the chloroform vapor is oxidized—$2CHCl_3 + O_2 = 2COCl_2 + 2HCl$.

Dr. Winslow believes chlorine gas to be the chief resultant and toxic principle responsible for the bad effects observed in chloroform anesthesia in proximity to gas, oil, or other flame, because it is most readily formed and because its characteristic odor and the clinical symptoms bear out this assumption. He has performed successfully the following simple experiment which Professor E. S. Wood was good enough to suggest to him, exhibiting the presence of free chlorine and hydrochloric acid when chloroform vapor comes in contact with gas flame: If a piece of filter-paper be moistened with a solution of potassium iodide and starch and held above a flame—which is allowed to play over an open vessel containing chloroform—the paper is immediately colored blue, because the liberated chlorine combines with potassium and sets free iodine to form blue starch iodide. Again, a strip of blue litmus-paper held above the flame will instantly turn red, through generation of hydrochloric acid, but soon becomes decolorized by the chlorine, which also renders the air irrespirable.

To turn now to the clinical side of the question, the experience of Professor Zweifel furnishes the most extended and instructive, not to say startling, evidence of the dangers attending the use of chloroform near gas flames. No series of prearranged experiments could possibly be more complete, although their author certainly does not appear to have conducted his operations with experimental intent. A number of abdominal sections were performed in an apparently ill-ventilated room under chloroform, and in the presence of three gas flames, one an Argand

burner. In seven cases out of nine catarrhal pneumonia developed, and one resulted fatally. Two of the non-affected patients were operated on during bright days, and so artificial light was not required.

Following the recited incidents Zweifel employed ether on eight patients in the space of as many days, subject to the same conditions and with the assistance of the same artificial light as before, yet with no untoward results. The symptoms of Zweifel's patients were, briefly, tremendous coughing, dyspnea, pain in the wounds, occasioned by the violent muscular contractions, and, in one instance, emphysema of the skin over the chest, caused presumably by rupture of alveoli in the pulmonary interlobular connective tissue and entrance of air, which found its way to the root of the lung, into the mediastinum, thence to the fossa jugularis, and finally to the subcutaneous tissue over the chest.

Dr. Mey, of the Catholic Hospital in Herne, Westphalia, reports an operation for gunshot wound of the abdomen, lasting four hours, under the influence of chloroform and in the presence of gaslight, during which the surgeons and sisters in attendance were overcome by the decomposition products of the anesthetic, one sister dying on the second day following the operation.

Another instance occurred during an operation for strangulated hernia, in which three ounces of chloroform was used, and one-half ounce was spilled accidentally on the floor in a small, badly-ventilated room, heated by an oil stove and lighted by an oil lamp and candle. The anesthetist succumbed first, and all were seriously but not fatally affected with coughing and pain in the chest, lasting for several days in the case of the operator and nurse. The patient is not reported as having suffered at all. The general symptoms in most of the reported cases are constant, dry, spasmodic, and paroxysmal cough, which may affect the patient as well as the bystanders. In one instance it became difficult to prevent the patient from falling off the table, so violent was the coughing. There is a stinging sensation in the nostrils, a perception of a pungent odor, and a feeling of distress and oppression in the chest. Often the patient has stridulous breathing, and heart and respiratory failure are reported. Retching and vomiting occasionally occur.

To further convince us of the danger of chloroform anesthesia in proximity to flame, we have the experiments of Stobwasser conducted on rabbits and guinea-pigs exposed to air laden with varying amounts of chloroform decomposition products. The animals were killed, and their bodies exhibited evidences of bronchopneumonia and edema of the lungs. The trachea was deeply injected, and both trachea and bronchial tubes were filled with frothy mucus. There was also passive congestion of the liver and kidneys, and the blood was dark and coagulated.

THE HEMORRHAGES OF THE EARLY MONTHS OF PREGNANCY.

JARDINE in an article with this title in the *Scottish Medical and Surgical Journal* for May, 1899, tells us that in his opinion treatment of hemorrhage in the early months of pregnancy differs according to whether it is threatened or inevitable. In the former the patient must be kept quiet in bed. If the bowels are loaded they should be cleared out with a gentle laxative, or better, by means of an enema of soap and water. A drastic purgative must be avoided. The food must be light and non-stimulating. The medicinal treatment aims at quieting uterine action. Opium in one form or other Dr. Jardine thinks is the best drug. The extract of viburnum prunifolium is highly spoken of as a uterine sedative. Dr. Jardine has used it with good results. Hydrastis canadensis is also said to be useful, but he has had no experience with it. Small doses of ergot are also highly recommended by some, but condemned by others. His experience of ergot is that it is very uncertain in its action This is probably due to the fact that the preparations used are often not freshly made. On the whole, he is inclined to think opium is the best drug to use.

The patient must be kept quiet in bed for a week or ten days. If there is any displacement of the uterus it should be rectified and kept in position by a pessary. We must warn the patient to be specially careful when her next period or two are due. She should rest then. If we find there is a syphilitic taint, we should put her on mercury and iodide of potassium and keep her on it until full term. In cases where abortions not due to syphilis have been frequent, Dr. Jardine has obtained very good results from chlorate of potassium, ten grains thrice daily, all through the pregnancy. [With this latter plan we entirely disagree.—ED.]

In spite of treatment some cases, which appear to be only threatened, will become inevitable. The line of treatment must then

be changed. In an inevitable abortion we must try to get the uterus emptied as soon as possible. There are several methods adopted. It is a very common practice to give ergot in full doses in the hope that the uterus will completely empty itself. This is a very uncertain method, and Dr. Jardine says he does not recommend it.

In a case where the os is dilated sufficiently we should remove the uterine contents with our fingers. We may be able to express it bimanually. Ovum forceps may be used, but the finger is the best instrument. If we cannot get it all away we must use the flushing curette, and douche out the uterus with an antiseptic. The hemorrhage usually ceases on douching, but in rare cases it continues. The uterine cavity should then be plugged with an antiseptic or aseptic plug. Iodoform gauze makes the best antiseptic plug. The plug should be removed within twelve hours. After clearing out the uterus, ergot should be given for a day or two.

In a case where the discharge is free and the os is not sufficiently dilated to admit of clearing out the uterus, the best plan is to thoroughly plug the vagina after douching it out. Iodoform gauze makes the best plug, but aseptic lint or a kite-tailed plug of pledgets of aseptic wool answers the purpose equally well. Full doses of ergot may be given. The plug should be removed within twelve hours. The ovum will often be found lying on the top of the plug on its removal. If the os is not sufficiently dilated to clear cut the uterus with the finger or curette, we may plug again.

In some cases it may be desirable to clear the uterus at once. Dilatation can be effected by means of dilators, such as Hegar's—the metal ones are the best. Tents are advised, but it is very difficult to make sure that tents are aseptic, and if not, the risk is very great. For that reason Dr. Jardine does not recommend the use of tents.

Very often ergot is given in cases of incomplete abortion in the hope that the retained portion will be expelled, but this is bad treatment. The uterus should be thoroughly curetted with a dull flushing curette. It may be necessary to dilate the cervix to do this. With the patient under chloroform this can easily be done with Hegar's or some other form of dilator. Tents are dangerous. As a rule the bleeding ceases on douching, but Dr. Jardine says he has seen one case in which it did not. The case was that of a young unmarried girl admitted last summer. She was bleeding freely on account of an incomplete abortion. She was an intelligent girl, but they could not get a straightforward history from her. Dr. Jardine strongly suspected it was a procured abortion. Under chloroform he dilated the cervix with Hegar's dilators, and thoroughly curetted the uterus with a flushing curette. In spite of a douche at 120° the bleeding remained profuse. It was checked completely by an intrauterine plug of iodoform gauze. She made an excellent recovery.

Jardine thinks that in missed abortion, if the os is dilated sufficiently, we should clear out the uterus with the finger or a curette. In a case where there is no attempt on the part of nature to expel it, we should dilate with Hegar's dilators, and separate the mass with the finger and remove it. The cavity should be thoroughly cleared with the flushing curette. Ergot and iron should be given, and we will probably have to treat the endometritis for some time.

In all cases where any examination or operative interference is necessary, the strictest antiseptic and aseptic precautions must be taken. The after-treatment in all is the same as after a full-term labor. Douching as a routine is not necessary unless there is sepsis, and then it must be done carefully and thoroughly. The patient should be kept in bed for at least a week. We will find this is a difficult task, but we should insist on it. Ergot is usually given to hasten involution.

If the abortion is a complete one, the usual after-treatment is all that is required.

Dr. Jardine leaves the consideration of prophylactic treatment to the end because, as a rule, we are not called upon to use it until the woman has had at least one abortion. The best prophylactic treatment in many cases is to properly treat abortions so that the uterus will return to a healthy condition —*i.e.*, to thoroughly clear it out and keep the patient quiet until involution has occurred. She should not resume intercourse until involution is complete and the endometrium is in a healthy condition. If syphilis is present, she should be put on antisyphilitic remedies. The husband should also be treated, but Dr. Jardine says he must warn us to be extremely careful in dealing with cases of this kind, as we may very easily upset the peace of a home.

In cases of endometritis, intercourse should be prohibited until the condition is cured.

Jardine has seen many cases of abortion in patients who became pregnant before their endometritis was completely cured. If there is anemia or other constitutional weakness present, suitable treatment must be adopted. In cases of habitual abortion from degeneration of the placenta, chlorate of potassium is a most useful drug. [We disagree with this.—ED.] We should give it continuously during pregnancy. If the uterus is displaced we must replace it and put in a pessary to support it. We should always warn our patients against overexertion, especially at times corresponding with the menstrual periods, and more especially at the time corresponding with former abortions.

ON THE USE OF ANTISTREPTOCOCCIC SERUM IN INFECTIONS BY THE STREPTOCOCCUS.

In the *Medical News* of May 6, 1899, BRISTOW tells of his use of this serum in the treatment of a number of cases. He used the serum made in the biological laboratories of Parke, Davis & Company.

It is well known to bacteriologists that the protective power of antistreptococcic serum is low at present and varies considerably, some specimens being fourteen times the potency of others, according to Marmorek's own statement. It seems idle, therefore, to expect results from a timid use of a relatively feeble serum. If good is to be expected from the use of the serum in this class of cases, it must be used in far larger doses than hitherto. Quantities of less than sixty cubic centimeters a day will not as a rule avail much, and much greater daily quantities may be necessary. Moreover, it must be used early in the disease, before multiple abscesses have formed in the uterine walls and septic thrombi have collected in the vessels of the pelvic structures. It has been noted in commenting on the use of this serum in the phlegmonous cases that while it seemed to limit the range of infection, or prevent suppuration where this had not already occurred, after pus had actually formed drainage was still absolutely essential to the recovery of the patient. The same rule will evidently apply to the uterine cases. This is probably the chief reason why the results of the serum in the puerperal cases have been so discouraging. The serum has been used late, after septic foci have been established and drainage has become a necessity. This, however, is most difficult to secure without the shock of a hysterectomy, in itself sometimes sufficient to carry off the patient. The early and free use of the serum will, it is to be hoped, give better results.

What is the proper dose of the serum? This is a practical question, and at present it can only be answered by saying that too much rather than too little must be given, because the serum has not as yet been standardized. An average dose is ten cubic centimeters. Twenty cubic centimeters will often be required, and daily quantities of 60 to 100 cubic centimeters may be needed. It is possible that the varying experiences of different observers have been due to the use of serums of different degrees of strength. It is not possible to give a definite dosage until the manufacturers succeed in standardizing their products, something which they hope to do at no far distant date. Until this has been accomplished the experiences of different observers must be of quite limited value.

In connection with the question of dosage, a second most practical query will suggest itself as to the possible dangers incurred in introducing large quantities of foreign serum into the circulation. Aside from the occasional appearance of erythemata and urticaria, Dr. Bristow does not believe that any serious risks are to be apprehended. In a series of reports of more than 1000 cases collected by him, the only instances in which the serum was charged with ill effects were in four or five puerperal cases. The unfavorable symptoms were classified as follows: sudden high temperature; collapse; uncontrollable vomiting. If these symptoms were the result of the serum we should expect to hear of their occurrence in some of the 800 remaining cases of the 1000. On the contrary, there is no record of such symptoms except in the puerperal cases, notwithstanding that much larger doses were given to children particularly, one child receiving 263 cubic centimeters and another 90 cubic centimeters. Now it is a fact that these very symptoms (sudden high temperature, obstinate vomiting, collapse) are all features in the pathologic history of abdominal sepsis. It does not, therefore, seem good reasoning to attribute these symptoms, evidently coincidences, to the use of the serum when it cannot be shown from the evidence at hand that they occurred in any other of the 1000 patients, but as a matter of fact occurred in those instances alone in which they were to have been expected apart from the use of the serum.

The serum has been used in cases of so-called malignant endocarditis with success, and in the bronchopneumonia of children (forty-five cases, Marmorek) without a single death. This affection, Marmorek states, is almost always of streptococcic origin. Considering the usual mortality of the disease in children this record is noteworthy.

ACUTE INFLAMMATION OF THE TYMPANIC CAVITY.

S. MacCuen Smith, in the *Philadelphia Medical Journal* of May 6, 1899, expresses the belief that the treatment of acute inflammation of the tympanic cavity will largely depend on the cause, stage, and severity of the attack. If the origin is catarrhal, and treatment is instituted during the stage of hyperemia, the inflammation will be arrested and confined to the seromucous or non-suppurative stage. If, however, this early care has not been given, the case will likely progress to the stage of suppuration, and rupture of the membrana tympani. The presence of deep-seated pain, increased by pressure over the tragus, calls for immediate bloodletting in front of the tragus. For this purpose Dr. Smith strongly urges the use of the artificial leech, on account of its convenience and efficiency; one or two cylinders of blood (or its equivalent, three or four Swedish leeches) should be extracted.

If bloodletting cannot be resorted to in young children, a blister will answer a fairly good purpose. The application of either dry or moist heat will give much relief in incipient cases; the first can be applied either by the hot-water bag, or by the bag of hot salt; the latter by instillations of a hot saturated solution of boric acid, the ear to be protected by a piece of cotton placed in the external canal, and worn for some time after the pain has subsided. The nasopharynx should be carefully examined and treatment applied to correct any abnormal condition.

Small doses of calomel and soda should be administered, until free purgation is established. A coryza tablet, composed of atropine sulphate $\frac{1}{600}$ grain, arsenous acid and strychnine sulphate of each $\frac{1}{240}$ grain, morphine sulphate $\frac{1}{160}$ grain, quinine sulphate $\frac{1}{10}$ grain, and camphor $\frac{1}{4}$ grain, should be taken every hour until a decided dryness of the throat is produced; then continue every two or three hours, for two or three days. Salol and phenacetine, or antipyrin, will be of service in appropriate cases, especially if there is a rheumatic tendency, or if the pain is severe.

It is assumed that if the patient is seen before suppuration has occurred, every effort will be made to arrest or modify the disease without surgical intervention. If, however, the disease does not yield to the treatment outlined, and the pain continues, with or without bulging of the membrana tympani, the membrane should be immediately incised, the point of election usually being the posterior inferior quadrant. As it is possible for the pus to be confined either to the superior or inferior portions of the tympanic cavity, it is best to incise the membrana tympani at the most dependent point, always bearing in mind that the object to be accomplished is the free evacuation of fluid from the middle-ear cavity. The drumhead should never be punctured, but, on the contrary, a free incision should be made, always extending it down to the inferior surface of the canal, so as to insure good drainage; otherwise the suffering and danger incident to the confined pus will continue. Care should be taken that the incision shall not interfere with the ossicles, and that it shall be done under proper antiseptic precautions.

Syringing of the ear should not be employed in acute suppurative otitis media, unless there is some special indication for its use. The discharge should be removed by cotton twisted on an applicator, some hydrogen peroxide instilled, and allowed to remain in the canal for four or five minutes; then dry the canal with cotton, introduce a small strip of iodoform gauze, and place a small plug of absorbent cotton exterior to the gauze, to catch the discharge. This dressing should be renewed daily for a week, when the case should begin to improve, and thenceforward will require less frequent dressing.

After the acute symptoms have subsided, it is well to rid the tube and middle ear of any retained pus by Politzer's method of inflation, to be repeated about once a week if found necessary.

THE OPIUM HABIT IN CHILDREN.

The *Archives of Pediatrics* some time since referred in its pages to the disastrous results which follow the improper administration of opium in pediatric practice. No other drug in the materia medica requires more intelligence and discrimination in its use. This being true in the hands of skilled physicians, it is self-evident that it cannot be used by

the laity with impunity. Many deaths are unquestionably caused by it every year, while the number of babies who are forced into the opium habit is appallingly large. At the Babies' Hospital in New York careful investigation recently showed that over half of the patients received under six months of age had been systematically drugged with opium in the form of paregoric or soothing syrup. Attention is again called to the subject by a discussion in the May number.

An infant may become as firmly addicted to opium as an adult, and feels as keenly its withdrawal. Sudden stopping of the drug is marked by restlessness, wakefulness, and every indication of suffering and distress. An infant has been seen, to whom paregoric had long been given regularly by a nurse, in a state bordering upon a frenzy twelve hours after the nurse's enforced absence.

Infants acquire the opium habit in one of three ways: through the mother, who does not realize the harm she is doing, but resorts to soothing syrup or some other opium preparation to obtain quiet and rest for herself; through the nursery maid or other attendant, who neither knows nor cares what the result may be so long as she is spared from trouble; through the monthly nurse, many of whom make capital upon their ability to keep a child quiet.

In the first of these cases the doctor is often at fault in advising the administration of paregoric for the minor aches and pains of the infant. For the relief of pain no drug equals opium. When actual pain is present, it may be given to children with perfect propriety. Condemnation cannot be too strong, however, against its use for the lesser ills and aches. It should never be used for sleeplessness, unless due to actual pain. It is so prompt and effective in its action that the mother is tempted to resort to it again and again. It is unwise to allow a mother to suppose that she can use paregoric. If it is indicated, let it be prescribed or left diluted ready for use. A few tablets may be carried, each representing ten minims of paregoric. These can be left with the assurance that no more will be given than is intended, and the mother will be in ignorance as to their exact nature. When a child is cross and irritable, the temptation to the mother to repeat an opiate is very great, and should be guarded against as far as possible.

Among children's nurses the habit of resorting to opiates is unfortunately very common and wide-spread, and accounts for many obscure and unexplained symptoms among their charges. A nurse who boasts much of her ability to keep an infant quiet, be she a nursery maid or a monthly nurse, should be an object of suspicion. It is rare that positive proof can be obtained, but the circumstantial evidence is frequently very strong. The presumption is strong when an obstetric nurse habitually has docile and abnormally quiet infants who become restless and wakeful a day or two after she leaves the house. The mother usually blames herself, and attributes it to lack of knowledge and experience on her own part. She is prone to have profound respect for the superior ability of the nurse. Too often the true explanation of the baby's change is an entirely different one.

While it would be a great injustice for the physician to be suspicious of every nurse, and cruel to charge such practices without ample warrant, he should, nevertheless, have ever in mind such possibilities. He should not be blind to the fact that the opium habit is not uncommon among little children, and he should never be the means of establishing it by injudicious advice to mothers and nurses.—*Archives of Pediatrics*, May, 1899.

SHOULD THE UNITED STATES PHARMACOPŒIA RECOGNIZE VERATRUM ALBUM AND VERATRUM VIRIDE AS ONE DRUG?

H. C. Wood and H. C. Wood, Jr., attempt to answer this question in the *American Journal of the Medical Sciences* for May, 1899. As the result of their whole series of experiments, they conclude that the only evidence which they have been able to obtain of differences in the action of *Veratrum viride* and *Veratrum album* is that *Veratrum album* more frequently purges man when taken in toxic doses than does *Veratrum viride*, and that some specimens of *Veratrum album* are stronger than are some specimens of *Veratrum viride*. On the other hand, it would seem, however, probable or even assured by the experiments that different specimens of *Veratrum viride* may vary greatly in their strength, and that some specimens of *Veratrum viride* may be stronger than some specimens of *Veratrum album*. It is not probable that a clinician would be able to perceive any difference in the action of the therapeutic dose of the two plants, so that it would be proper for the Pharmacopœia to recognize both species, if any advantage could be gained by so doing. A national

pharmacopœia should, however, according to Dr. Wood's idea, favor the use of American drugs when it can do so without injury to any one. The recognition of *Veratrum album* would be an aid in the substitution of an American by a foreign drug which now has very little vogue in our markets, and which possesses no advantages whatever over its American representatives. Any difference which may possibly exist between the two Veratrums is in favor of the American drug as less apt to disturb intestinal digestion. Under such circumstances the recognition by the United States Pharmacopœia of the European drug seems to them of doubtful expediency.

INSANITY IN CONNECTION WITH DISEASE OF THE DUCTLESS GLANDS.

The *Medical Record* of April 29, 1899, contains an article by HAMILTON on this subject. In its course he remarks that the results of the administration of organic extracts for the treatment of mental diseases of the kind described, and, in fact, of many psychoses with no such origin, have been, to say the least, interesting, especially when the thyroid has been administered either in the raw form or in powder. Babcock has had particularly happy results in cases having diverse characteristics, and his experience has been shared by many others. In his list of patients, which included examples of stuporous, melancholic, cerebral exhaustion, and chronic disturbed cases, there was a prompt clearing up and elevation in temperature, and in some cases an increase of hemoglobin of at least twenty per cent. Occasionally there was more marked mental depression, which was followed by a stimulation of intelligence. Osler reports a series of cases in which the most wonderful transformation took place in cretinous and myxedematous subjects, and in which a decided amelioration of the mental as well as the physical symptoms took place when large doses of the powdered thyroid were given.

Dr. Hamilton says his experience, while less extensive than that of others, has led him to believe that at least in chronic depressed states this organic extract sometimes does much good, and especially encouraging results were obtained in a case of chronic insanity with erotic delusions, seen in consultation with Dr. Dana. So fixed had been the patient's mental disease, and so many plans of treatment had been tried unsuccessfully, that it was with slight hope that they prescribed the powdered thyroid; but the prompt subsidence of the symptoms, the greater or less improvement of general intelligence, and even the disappearance of physical indications of dementia, fully justified the experiments. The patient during the administration of the powder improved, but after a time relapsed into her old stuporous condition, when it was discontinued.

The duration of the beneficial results attending the use of thyroid extract does not appear to be so lasting in ordinary insanity as it does in the true thyroidal insanities, possibly because the cerebral malnutrition and cortical changes are too deep-seated. In the insanity of acromegaly Andriezen has used powdered pituitary gland with benefit.

In stuporous melancholia and psychoses in which the katatonia symptom-complex was present, it has been of use. Splenic glyceride has been recommended and used by Clark, of Scotland, who noted as much as fifteen per cent increase in the pulse-rate, with slight temperature elevation in depressed cases, and with slight increase of weight and an improvement of the condition of the skin, together with a lightening up of the stupidity of the patient. This observer also noted that in all cases of insanity the weight of the spleen was below normal.

The interesting physiological results of Schäfer, who experimented with the adrenal extract, and demonstrated that when it was injected into the veins there was a decided if not lasting effect upon the arterioles, which were contracted as the result of its use, and if taken by the mouth a general diminution of the caliber of the arteries could be detected by Oliver's arteriometer, has led Dr. Hamilton to try it in mental cases. While it has been used as a substitute for cocaine as an application to the mucous membrane, as recommended by others for surgical operations, it has not yet been administered internally, although Gilman Thompson has suggested its employment in hematemesis. Dr. Hamilton has used it in cases of exophthalmic goitre with decided benefit, and in two cases of hysterical mania it promptly reduced the excitement and produced sleep when divided doses of from five to twenty grains were taken. Its effects, while not lasting, are certainly preferable to those of some narcotics, and it is possible that it may sometimes be indicated as a substitute for morphine or hyoscine. When morbid mental states are the result of toxemia it may be administered.

Just how important are the relations of the

internal secretions to each other, and how much their variations are likely to be followed by the development of psychic symptoms if not by actual physical change, is so far undeterminable, and can be tested only by experiment. It would appear that in the hands of Ringer, Phear, Lloyd-Jones, Dyson, Park, and others, adrenal extract has done little good in Addison's disease, although a slight improvement in the mental dulness and weakened condition of the circulation followed. In a case reported by Dyson, of a girl of thirteen years, in whom a progressive loss of memory and maniacal excitement and coma preceded death, the tincture of the adrenal gland was given without effect. It does not appear that thyroid extract was tried.

OOPHORECTOMY AND THYROID TREATMENT IN CANCER.

The effects of the menopause on the generative apparatus, and on the breasts in particular, suggested to certain enterprising surgeons some time since that malignant growths of the breast might be favorably influenced by an artificially induced menopause, as, for instance, by ablation of the ovaries. On the whole the results of the operation, though not devoid of interest, have not proved quite as successful as had been hoped. Subsequent observations by a method in which the administration of thyroid extract was associated with the removal of the ovaries have given much more promising results, though one is quite at a loss to explain the *modus operandi* of the combined treatment or to apportion the relative merits of the two factors.

At a recent meeting of the Medical Society of London, as reported in the last issue of the *Medical Press and Circular*, Dr. G. Herman recorded a second case in which this operation, plus the administration of thyroid gland, had given results so successful as to be remarkable. In this particular case the treatment had brought about the healing of a large carcinomatous ulcer of the right breast which had recurred after two operations for removal by surgical means, and had determined the disappearance of a large tumor in the other breast, the nature whereof was sufficiently indicated by the enlargement of the corresponding axillary glands, which glands also had ceased to be perceptible to the touch. These results are sufficiently remarkable to merit attention, especially in view of the unsatisfactory results of purely surgical measures, which are at best but palliative. Mr. Stanley Boyd inclines to the view that the improvement is really due to the oophorectomy, but statistics hardly bear out his contention, for Dr. Herman had no trouble in showing that the results after oophorectomy alone were not nearly as good as when the thyroid treatment is superadded. Further experience will show which of the two factors plays the most important rôle in producing these results. It seems, however, that oophorectomy, if it is to be of service, must be done before the cessation of menstruation, for in several recorded instances no effect has followed their removal after the menopause. This is what one might have anticipated, though from another point of view it seems odd that if the artificially induced menopause exerts such a marked effect the natural process should not confer similar quasi-immunity against cancer. This fact tends to support the view that oophorectomy alone is not sufficient to determine a constitutional change capable of inhibiting malignant growths. Dr. Herman suggests that the withdrawal of the ovarian secretion and the presence of an excess of thyroid-secretion render the tissues less amenable to the ravages of the hypothetical parasite of cancer, and this explanation is in accordance with the results so far obtained.

Has excessive thyroid secretion any direct influence in conferring immunity against cancer? This question ought not to be difficult to answer, for we have only to ask ourselves whether on the one hand women who suffer from exophthalmic goitre ever develop cancer, and whether, on the other hand, myxedematous patients display any marked predisposition thereto. We must not forget, however, that cancer has its vagaries. There is the well known case of Mr. Gould, in which a patient apparently dying from cancer, and regarded as past treatment, suddenly took a turn for the better, and ultimately made a perfect recovery without treatment of any kind. There are, indeed, plenty of cases on record of the spontaneous subsidence of cancer, and it is hardly in accordance with scientific methods to dismiss all instances as examples of faulty diagnosis. That is merely begging the question at issue. We must not allow our judgment to be warped by preconceived pathological notions. It is possible, and indeed probable, that the microscope alone does not enable us to establish absolutely the malignancy of a tumor. Malignancy, moreover, is essentially a clinical

term; it characterizes growths in which from microscopical data one would not have expected it, while it is sometimes absent in growths which, as far as microscopical evidence goes, are doomed to rapidly fatal development. These facts should teach us not to be too dogmatic, and not to pin our faith to such a kaleidoscopic science as pathology, which, useful when taken in conjunction with clinical observation, is apt to prove misleading when erected into a scientific dogma. We shall probably not have long to wait for further and more extensive observations on the lines which we have sketched, and these will serve to teach us the limits of the treatment and possibly, later on, the precise method of its action.—*Medical Press and Circular*, April 19, 1899.

SOME OF THE LESS COMMON EFFECTS OF MALARIA, WITH REMARKS UPON THE TREATMENT OF CHRONIC INFECTION.

The *Medical Record* of April 29, 1899, tells us that Dr. WILLIAM H. THOMSON contributed a paper with this title to the meeting of the New York Academy of Medicine, held April 20, 1899. He said that in 1862 he published a paper in which he argued that the chief facts concerning the communicable diseases could be explained only on the assumption that they were due to microorganisms, but this assertion had been received with much ridicule, as the prevalent belief at that time had been that these diseases were due to volatile poisons. But long after that time malaria held its own as a disease of this class—a distinct miasm, as its name implied. Our point of view in regard to malaria has, however, wholly changed, and our present view regarding it constitutes a very great advance in medicine. If the inoculation theory should become thoroughly established, it would mean practically an effectual check to the spread of malaria. Dr. Thomson said that in 1896 he had had in his hospital services two cases of fatal cerebral malaria, in which the diagnosis had been verified by autopsy. Both patients were Germans over sixty years of age, and both had contracted the disease while working in gardens on Long Island. The temperature had varied between 99° and 101° F. for eighteen days. Although vigorously treated, there had been no diminution in the large number of plasmodia present in the blood. Their condition resembled that of one suffering from uremia. At the autopsy the cerebral vessels had been found loaded with pigment. Such cases should suggest that when the origin of a febrile coma was obscure, the blood should be examined for the malarial organisms.

In those functional nervous affections, such as periodical neuralgias, dependent upon malarial infection, Dr. Thomson had had much success from combining ergot and quinine, even when large doses of quinine, antipyrin, and similar remedies had totally failed previously to give relief. In every case of this kind ergot had been uniformly successful. In some of them the administration of moderate doses of quinine with the ergot had produced cinchonism, which had not been the case when much larger doses of quinine had been given without the ergot.

If every first attack of malaria be treated carefully for six weeks, the author felt sure that there would be few cases of chronic malaria. Numerous observations on the incubation period following the first infection have shown that it varies very greatly in different persons. It was this feature of latency that persuaded patients to drift on without systematic and sufficiently prolonged treatment. The blood should be examined microscopically at intervals for at least nine months after apparent recovery. Chronic malarial infection implies a personal susceptibility, either original or acquired.

The treatment of malaria which Dr. Thomson would recommend begins with a mercurial laxative, given toward the close of the febrile paroxysm. The quinine should be administered from one to two hours before the time for the chill, but as one large dose is apt to disturb the stomach, it is better to give the desired quantity of quinine in three equal doses at intervals of two hours, the last one being given one or two hours before the chill. A most valuable adjuvant to quinine is ginger, given in the same dose as the quinine. Another useful addition is capsicum, in one-fourth of the dose of quinine. It is a curious fact that the first dose of this combination usually acts as a free purgative. In forty-seven cases of Cuban malarial fever that had resisted the usual treatment last fall, the author had adopted the plan of giving camphorated tincture of opium as an adjuvant to the quinine, and with remarkably good results, as already published. Perhaps the most striking action of this combination was in the improvement of the general condition, and the buoying up of the spirits. A

good method, at times, of administering the paregoric is by mixing it with the old compound infusion of cinchona.

PROPHYLAXIS AND TREATMENT OF INTESTINAL OBSTRUCTION.

The last number of *Schmidt's Jahrbücher* contains a review of some interesting contributions to this important subject. Professor Heidenhain, in discussing the cases that have come under observation in the clinic at Greifswald during the past few years, maintains that clinical experience absolutely demonstrates that intestinal obstruction may be in some cases the result of a purely functional disturbance of intestinal peristalsis. In three cases a spastically contracted portion of small intestine was found at operation as the cause of the acute symptoms. The serious disturbance of peristalsis had been brought about in one case by a stricture of the rectum high up, in a second by a volvulus involving the large intestine at the sigmoid flexure, and in a third by the presence of a roundworm.

In cases in which any chronic disease of the intestine exists every possible precaution should be taken to avoid disturbing the already irritated peristalsis by anything calculated to produce additional reflex excitation. Only the most bland food should be permitted, and every excess strenuously prohibited. Acute intestinal obstruction from bunches of roundworms knotted together has been noted before, but now for the first time the direct irritation due to the presence of a single worm has been reported as causing sufficient spastic interference with peristalsis to set up acute obstructive symptoms.

Three patients in whom complete intestinal obstruction was diagnosed were relieved by high injections. Under these circumstances doubt still remains whether the condition was due to any of the ordinary serious causes of true obstruction or was occasioned by an extreme degree of coprostasis. Heidenhain thinks that obstruction due to ileus at the sigmoid flexure, a not infrequent condition, may be relieved by injections—not, however, if the twist of the gut is more than 270 degrees. Operation for this condition, followed by fixation of the intestine, has given excellent results in Heidenhain's hands.

An interesting commentary on Professor Heidenhain's success with high injections in certain cases of acute obstruction is found in the report of Dr. Barker's experience with fifteen such cases. In six cases he succeeded in reducing the intussusception by water or air injections. The tumor so changed its character on palpation that no doubt of the reduction seemed possible. In every case, however, it recurred; in a few hours it could be felt as before, and necessitated operative interference. Of the fifteen patients, ten recovered. Eleven of the patients were children under sixteen months of age; one was an adult, aged thirty-two; the others were children, aged respectively four, five, and twelve years.

While injections of air and water still have a place in the therapeusis of obstruction, they must evidently not be allowed seriously to delay surgical procedures, which are always to be thought of at once. In intussusception in children where it was hoped injections would be effectual they have proved of doubtful utility, and may only make the eventual prognosis worse by delay. It is clear, however, that as diagnosis becomes more exact operations are undertaken earlier, and the percentage mortality from acute intestinal obstruction is ceasing to be the opprobrium to modern surgery that it formerly was.—*Medical News*, April 29, 1899.

SALINE SOLUTION IN SEPTICEMIA AFTER ABORTION.

OSTERMAYER (*Centralblatt f. Gynäkologie*, No. 12, 1899) relates how a very bad case of septicemia was successfully treated by small subcutaneous injections continued for a fortnight. The patient was twenty-six, and it transpired that her husband had induced abortion. Ostermayer was called in on November 25, 1898, for metrorrhagia. On the 27th a rigor set in; the curette being used, much placental and decidual tissue was removed, with old clot. A few days later jaundice was observed, then toothache, with periostitis of the adjacent part of the upper jaw. On December 8 the periosteum was incised and pus let out. General erythema and high temperature and pulse were next observed. By December 14 the patient was in a desperate condition; 300 grammes of a 0.9-per cent saline infusion was injected into cellular tissue of the right infraclavicular fossa. On the 15th she was very ill; another injection was given. The patient then began to improve. Vomiting and diarrhea, which had been severe, ceased, and the pulse, which on the 14th was too feeble and rapid to count, dropped to 108 and was strong. Urine be-

gan to be freely secreted. From the 16th to the 20th two subcutaneous injections of the saline solution were given daily—the last, once daily, were given on the 21st and 22d. The pulse was about 100, the temperature 98° to 100°; the erythema had nearly disappeared. By December 21 the patient was quite well. Ostermayer notes that the first infusion, injected on the evening of the 14th, was not absorbed till the following morning, yet temporary good effects were already observed. After the 18th the infused solution was absorbed within three hours.—*British Medical Journal*, April 22, 1899.

SALICYLATE OF METHYL.

Among recently introduced drugs salicylate of methyl seems to be one likely to prove of considerable use, and SCHOULL contributes an article on the indications for its use (*Journal de Médecine*, March 10, 1899). It is more particularly in the articular manifestations of rheumatism that it is successful, especially as a means of relieving pain, which disappears very rapidly under its administration, much more so than with salicylate of soda. The swelling of the joints is somewhat longer in disappearing, as is also the temperature, and salicylate of soda seems in this instance more efficacious. It is therefore proposed to administer the two salicylates together, under which circumstances the similar dose of the soda salt can be employed. Schoull has also employed a combination of salicylate of methyl and antipyrin, and has thus obtained some surprising results in the reduction both of the pain and temperature. He points out that the amount of urine should be watched during the administration of this drug. Salicylate of methyl is also of extreme advantage in subacute and chronic rheumatism, in which cases it presents a marked superiority over the soda salt. The same may be said of gouty arthritis. In certain other infective conditions, as gonorrhea, syphilis, and erythema nodosum, the effects, though good, are not so striking. The writer quotes Roger as having obtained very good results in the arthritic complications of eruptive fevers, especially scarlet fever, in which the action of antipyrin, salicylate of soda, or salophen is slight. The drug is also efficacious in neuralgia, sciatica, some forms of neuritis, herpes zoster, and lightning pains of tabes. Schoull has also tried salicylate of methyl in cases of orchitis from mumps, and with remarkable results, all the symptoms disappearing in two days. Even in cases of epididymitis the effects are very favorable. The treatment of mumps itself by salicylate of methyl has been tried by Picard, of Troyes, with considerable success.—*British Medical Journal*, April 22, 1899.

THE INDIRECT TREATMENT OF HEPATIC CIRRHOSIS.

CARDARELLI (*La Riforma Medica*, March 11, 1899) deals chiefly with the treatment by milk diet, of which he speaks highly. In the cases in which it does good, the urine increases in quantity, the urea increases, and the uroerythrin disappears. These good effects may not be seen all at once; they may be delayed, especially where there is much abdominal tension. Small quantities (half a liter or even less) should be given at first. If milk cannot be borne, large doses (40 to 50 grammes) of lactose may be given in weak broth. To test the power of absorption, the author recommends an enema containing five to six grammes of salicylate of soda, which may be looked for in the subsequent urine. The most reliable indication for paracentesis abdominis where there is ascites is the quantity and quality of the urine and the presence of edema of the lower extremities. In performing paracentesis, the author prefers the gradual method of extraction by Southey's tubes.—*British Medical Journal*, April 22, 1899.

THE USE OF HOLOCAINE AS A LOCAL ANESTHETIC IN EYE, EAR, NOSE, AND THROAT OPERATIONS.

In the *New York Medical Journal* of June 17, 1899, GUTTMANN concludes an article upon this subject with the following summary of his views. He thinks that in a discussion as to the relative merits of local anesthetics, eucaine, as compared with cocaine and holocaine, may be left entirely out of consideration, inasmuch as it not only has no advantages over these remedies, but has positive disadvantages. As regards holocaine and cocaine, the results of Dr. Guttmann's investigations on healthy eyes may be briefly summarized as follows: Both cocaine and holocaine possess the common property of paralyzing the terminal filaments of the sensory nerves, and both are therefore good local anesthetics. For practical purposes there is no great difference between them, as regards the time of onset or the duration of anesthesia. Nor do they materially differ

in the intensity of the resulting anesthesia. Either remedy may therefore be used indifferently in the ordinary operations on the eye. But whereas the cocainized eye, in his experience, was pale, protruding, of lowered tension, with the pupil dilated and the fissure of the eyelid enlarged, the holocainized eye was red and inflamed, of normal tension, not protruding, pupil normal, and palpebral fissure not enlarged. This difference in the effects of cocaine and holocaine is explained by the well known action of cocaine as an irritant to the terminal sympathetic nerve fibers, and its consequent vasoconstrictor effects. The pallor of the eyeball is therefore due to the powerful contraction of the blood and lymph vessels following the application of cocaine. The haziness and dryness of the cornea are also due to the vasoconstrictor effect of the cocaine, although the abolition of the reflex nictitatory functions of the eyelids, as a result of the anesthetic condition of the eye, is also partially responsible for them. But neither in Dr. Guttmann's observations nor in the experiments of others was any effect of holocaine on the sympathetic nerves to be observed.

From these observations we may derive conclusions as to the indications for the use of either one drug or the other. For the removal of a foreign body from the cornea holocaine is to be preferred, for unlike cocaine it does not produce the subsequent disagreeable mydriasis; also for a strabismus operation is holocaine to be preferred, for cocaine causes the muscle to shrink, and thus often permits some muscular fibers to escape the strabismus hook.

In the treatment of inflammatory affections of the conjunctiva and cornea, associated with painful blepharospasm, holocaine is of great value, for it not only relieves the spasm and allays the pain, but also acts as an antiseptic, and thus as a curative agent. But on the other hand, cocaine is to be preferred in the performance of an iridectomy where the arteries appear atheromatous and where we would avoid a considerable hemorrage. The vasoconstrictor effect of cocaine, and the diminished tension of the eyeball, together with the subsequent deepening of the anterior chamber, are all factors in favor of using cocaine for the performance of an iridectomy under these circumstances. For the extraction of a cataract where the pupil is small, cocaine is to be preferred on account of its mydriatic action. For the many other operations on and about the eye, these two agents may be used indifferently, unless, indeed, the bactericidal action of holocaine should incline us to use it in preference to cocaine. This latter consideration is sometimes of great importance, especially if we consider the time and trouble that is required to sterilize a solution of cocaine.

In choosing our anesthetic for operations on the ear, nose, and throat, we must consider whether the disadvantage of the freer hemorrhage following the use of holocaine is more objectionable than the disadvantage and undesirable shrinkage of the tissues following the use of cocaine. That the shrinkage of the tissues caused by cocaine is at times a disadvantage is illustrated by the following case: A lady of a somewhat nervous disposition, suffering from obstructed nasal breathing, was recommended to Dr. Guttmann for treatment. On examination, Dr. Guttmann found a hypertrophy of the posterior tip of the inferior turbinated body. The lady being very sensitive, he applied some cocaine solution to the nostril in which he intended to operate; but on introducing the cold snare he found that the tumor, which was previously so evident, could not now be seized with the instrument. A second examination showed him that the reason for this was the almost complete shrinkage of the tumor caused by the cocaine. Had holocaine been the anesthetic, he should have been spared the vexation of having to ask the lady for a second visit for the performance of the operation.

Besides the well known bitter taste and disagreeable choking sensation which cocaine produces when applied to the nose and throat, it also produces a sensation of dryness which causes the patient to hawk so much that very often profuse hemorrhage results. All these undesirable phenomena are entirely absent when we employ holocaine. Obviously, then, holocaine is to be preferred to cocaine, not only when we wish to avoid the shrinking effect of cocaine, as in the removal of granulations from the ear, of hypertrophies of parts of the turbinated bodies, of small polypi in the ear, throat, nose, etc., but also when we wish to avoid the other disagreeable effects of cocaine when operating on the aforesaid organs. It must be evident to all that holocaine is a valuable substitute for cocaine in persons who have unfortunately become victims of the cocaine habit, and in those exposed to the same danger from the frequent use of cocaine for the amelioration of some complaint.

In conclusion, Dr. Guttmann wishes to say that during the last year he has employed holocaine instead of cocaine in about a hundred and fifty operations, and has never observed the slightest toxic or alarming manifestation. According to the investigations of several writers, it is not advisable to use holocaine hypodermically. Although holocaine will never entirely replace cocaine, yet it will frequently be of equal service, and under certain circumstances will even be preferred to it.

SOME REMARKS UPON OBSTETRICS IN PRIVATE PRACTICE.

Dr. J. Clifton Edgar, in an article with this title in the *New York Medical Journal* of June 17, 1899, asks the following questions, and then answers them:

Shall the obstetric outfit be prepared by the patient or nurse, or shall it be procured already prepared from some dealer in surgical dressings?

A further question naturally suggests itself, namely, of what does the obstetric outfit today consist?

Aside from the "mother's outfit," meaning the clothes she will need during her lying-in period, and the "baby's outfit," including, if possible, a "baby-basket," the obstetric outfit should at least include the following articles:

1. A douche-pan, preferably square and of enamel or agate-ware.

2. Two ordinary rubber blankets, or two pieces of rubber sheeting, one one yard square and the other two yards square.

3. Three or four dozen soft napkins for vulvar dressings, or the same number of vulvar pads from a surgical-dressing dealer.

4. One or two pounds of sterilized absorbent cotton, or twenty-five yards of cheese-cloth or sterilized gauze. This for sponging.

5. Six abdominal binders of soft muslin or mull, eighteen inches wide, and preferably made to fit the figure at the sixth month of gestation.

6. Two hand brushes.

7. Some old linen for the baby's eyes and mouth.

8. Four ounces of tincture of green soap.

9. Bottle of sublimate tablets.

10. Seven ounces of chloroform.

11. Four ounces boric acid, powdered.

12. One tube of sterile white vaselin (for the baby).

13. Small and large safety-pins and bank pins.

If there is no nurse available before labor sets in, and it is necessary for the patient to see to the cleansing of the above articles, she may be instructed to pin the douche-pan, rubber sheeting, and hand brushes separately in coarse kitchen towels and boil for half an hour in an ordinary wash-boiler. The articles so boiled are then dried without removing the towels, put away, and not opened until the time of labor.

The soft napkins, if these are to be used for vulvar dressings, should, freshly laundered, be pinned, half a dozen in a package, in coarse kitchen towels and put away until the onset of labor. The nurse is then instructed to sterilize one package at a time by placing in the oven until the outer covering is scorched. For sterilizing instruments and dressings in the oven of the kitchen range, one only requires a thermometer graduated to 200° C., so as to prevent the temperature from rising too high, and to make sure that 140° C. is obtained. The absorbent cotton, the old linen for the baby's eye, and the cheese-cloth are treated in the same way, the latter two being cut up into convenient pieces and sterilized as needed. It is sufficient that the abdominal binders be thoroughly laundered and pinned separately in freshly laundered towels until needed.

Further articles to be in readiness at the time of labor, and obtainable in most households, should include:

1. Arrangements for an abundant supply of hot water.

2. A bowl for vomited matter.

3. Two clean earthen-, agate-, enamel-, or paper-ware bowls for hand cleansing.

4. A clean bowl for the placenta.

5. Three pitchers—one for boiling water, one for cold boiled water, and one for mixing antiseptic solutions.

6. A clean cup or tumbler with boric acid solution, and gauze or old linen wipes for the baby's eyes.

7. A half-dozen freshly laundered old linen sheets to serve as bed-pads.

8. An abundant supply of freshly laundered sheets and towels.

9. A change of nightclothing, warmed, for the mother.

10. A warm blanket to receive the baby.

Of these articles the four bowls, the cup, and the three pitchers should be scrubbed with soap and water and boiled in a wash-boiler, or at least scalded out.

It is sufficient that the old sheets to be used as bed-pads and the usual bed-sheets and towels are freshly laundered.

For special cases, however—for example, breech presentations—it is desirable that half a dozen towels shall be sterilized by boiling or by dry heat in the oven, as described above.

It will be noticed that the time-honored douche-bag and tube have not been referred to, and this is because we do not employ douches except for a positive indication, and further, because we believe these articles should be part of the physician's obstetric outfit, sterilized and cared for under his direct supervision. There is no reason why a patient, be she ever so wealthy, should purchase an instrument which may be needed, and, like other surgical appliances, should be used, only by the physician himself, or under his direct supervision. Dr. Edgar says it is his firm conviction that, both from the clinical and bacteriological standpoint, an intra- or postpartum douche, be it never so carefully administered, carries with it a distinct risk of infection, and involves a responsibility which should not be lightly assumed.

Most, or all, of the articles contained in the above list can to-day be obtained, sterilized in their final wrappers and ready for use, from many of the dealers in surgical dressings, at prices for the outfit varying from four to thirty dollars.

These obstetric outfits, cleansed and sterilized, are usually packed and sealed in a neat box, thus allowing the contents to be kept intact until needed.

The contents of these outfits vary somewhat in detail, but the following list contains the essentials:

1. Agate-ware (square) douche-pan.
2. Sterilized bed-pads.
3. Sterilized vulvar pads.
4. Sterilized absorbent cotton.
5. Sterilized absorbent gauze.
6. Two pieces of rubber sheeting or two ordinary rubber blankets—one for permanent labor bed and the second for the draw sheet.
7. Abdominal binders.
8. Glass and rubber catheter.
9. Scrub or hand brush.
10. Sterilized tape for cord.
11. Sublimate tablets; boric acid, powdered; chloroform; ergot; borated talcum powder; soap; tube of sterile vaselin; safety-pins.

A CASE OF ACETANILID POISONING FROM EXTERNAL ABSORPTION IN AN INFANT.

THOMPSON WESTCOTT reports the following case to *Pediatrics* of June 15, 1899. He believes it is of value as offering another instance of the facility with which acetanilid, when externally applied, may find its way into the circulation and produce toxic effects.

The patient was a female infant, about four months old, the child of a physician, through whose request Dr. Westcott saw the case in the later stages after recovery was already assured. She was a well developed, fat little baby, nursed entirely upon the breast, and during the hot weather of last summer, at Atlantic City, she had suffered severely from the heat, perspiring freely and becoming chafed in the folds of the groin and the creases of the thighs. In some of these localities the intertrigo had become almost eczematous. For the treatment of this condition a dusting powder of pure acetanilid had been ordered and used only once when the alarming symptoms developed. About ten o'clock on the morning of that day the powder had been dusted upon and rubbed over the affected surfaces. The baby was then nursed and put to sleep in her crib. When taken out at 1 P.M., the time for her next nursing, the mother noticed that the skin had a peculiar grayish pallor and the lips were bluish, though the surface temperature did not seem lower than usual. She nursed well, and went to sleep again at 2.30 P.M. The skin was waxy; the mucous membrane of lips and tongue more deeply cyanotic, and the face drawn and pinched-looking. At 3.30 P.M. the appearance was still unchanged, and the child was in a heavy slumber, from which she could not be easily aroused. There was said to be no sweating, and at the time the father first saw her, about 5 P.M., she had improved somewhat in appearance; the cardiac action and respiration were not appreciably disturbed. A few drops of whiskey was then given hourly, and when Dr. Westcott saw her, about 6.45 P.M., the cyanosis was passing off and continued to do so appreciably, as he watched her for fifteen or twenty minutes. She could be roused easily, but was disposed to lie quietly, and readily fell asleep again. The pupils were normal, and the pulse and respiration showed no marked alteration. Recovery was thenceforth uninterrupted, without demanding further treatment. The remains of the powder had not been removed until the father saw her, some four

or five hours after signs of poisoning were first noticed, and when improvement had already begun; so that it seems likely that continued absorption of the drug had been checked by the process of crusting over the exposed surfaces of the derm.

Since the introduction of acetanilid as a dressing for wounds by Harrel in 1893 (*Medical News*, October, 1893) numerous instances of toxic absorption have been recorded. Less frequently have like results followed in more superficial lesions of the surfaces of the skin.

Newton (*Medical Record*, March 7, 1896) records the case of a child with extensive burns of the face, arm, and leg. The central portions of the wounds were sprinkled with acetanilid, between twenty and forty grains being used on five occasions in nine days. When this dressing was applied on two successive days there followed in four hours a condition approaching collapse, marked by extreme cyanosis, weak and rapid pulse, and dilated pupils. Recovery was gradual, cyanosis and coldness persisting for several hours.

Briggs (*Occidental Medical Times*, October, 1895) observed mild toxic symptoms after use of the drug as a dressing for a circumcision wound in an infant a week old.

Carmalt (*Yale Medical Journal*, 1896, p. 131) produced cyanosis in a girl of eighteen years by using the powdered drug upon a profusely suppurating ulcer.

Rook (*Journal of the American Medical Association*, 1896, xxvi, p. 239), records two serious cases—one in a baby four days old with erythematous inflammation of the skin, nates, thigh, and groin, for which several applications of a powder composed of equal parts of acetanilid and bismuth were used. Death occurred within eighteen hours after the powder was first applied. In the second case, an infant two days old, Rook used the drug for erythema of thighs and nates. Intense cyanosis was observed about twenty-four hours after the first and only application, but the child recovered.

Snow (*Transactions American Pediatric Society*, vol. ix, 1897, p. 39) has seen severe symptoms from absorption of the drug from the umbilical stump after detachment of the cord on the seventh day, about sixty grains of the crystals having been used once. Absorption was slow, and symptoms did not appear until after the ninth day, fully sixty hours after the drug was applied.

In the case here recorded the actual amount of surface capable of directly absorbing the drug was very small and in no way comparable to the area of surface exposed in the extensive burns presented by Newton's patient. In both of Rook's cases, however, there was apparently no break in the surface of the skin, but absorption seems to have been nearly as rapid as in cases presenting open surfaces.

The conclusion may be justly drawn that the use of acetanilid as a desiccant dressing with young children, even when there is an insignificant exposure of the derm, is distinctly dangerous to life.

CHLOROFORM SICKNESS.

The *Edinburgh Medical Journal* for June, 1899, contains an article by Ross, in which he says that vomiting, occurring either during or after the administration of chloroform, is associated with circulatory depression, as shown by pallor and lowered pulse tension. A well known handbook states that the faintness is caused by the vomiting; but it may always be noted that in these cases the pallor and lowered tension precede the vomiting, and are therefore not caused by it. Indeed, the administration of brandy—a circulatory stimulant—will check vomiting when it has arisen. Now, patients who have been starved for several hours are, of all, the most prone to syncope, and also, as Dr. Ross has endeavored to show, to vomiting. Hence he believes that chloroform sickness is in part due to circulatory depression. The reasons in brief are: (1) Circulatory depression precedes vomiting; (2) when the operation is prolonged—*i.e.*, where there is more circulatory depression—there is more vomiting; (3) in midwifery where the heart is hypertrophied and where shock is usually little compared to that after operation, there is little tendency to sickness; (4) an empty stomach augments depression and is more commonly accompanied by sickness; (5) a circulatory stimulant (brandy) diminishes sickness.

That another cause is present also is probable: this is, that chloroform acts on the stomach wall as a local irritant and causes emesis. Every patient at some period of the administration swallows some of the chloroform vapor. If the stomach be empty the local effect will be greater. Again, the longer the administration the more chloroform will find its way into the stomach, and the effect will be increased. Further, as will be shown later, the application of local anesthetics and of lavage to the stomach

wall tends to check vomiting; these measures counteract or remove the local irritant. In view of these considerations, it would seem to be right to give the patient his breakfast before administering the anesthetic. It would not be wise to allow him to distend his stomach, but it does not seem to matter how near the administration the meal is given, provided that the anesthetist will not let him be sick on the table.

Certain medicinal measures may be taken to prevent the onset of sickness. First, as already mentioned, we may exhibit local anesthetics. Dr. Maclaren suggested a capsule of cocaine, $\frac{1}{10}$ grain; menthol, $\frac{1}{6}$ grain; and carbolic acid, $\frac{1}{4}$ grain. This was given as soon as the patient came out of anesthesia. Sixteen patients were treated in this way. Of these, four were sick. This equals twenty-five per cent. These patients had been prepared in the ordinary way. As already mentioned, in those similarly prepared, who did not get these capsules, the percentage of cases sick was 35.2. This is a gain of ten per cent. Cocaine alone in capsule was tried also, but the results were not good. Sixteen patients were given one-sixth grain; ten were sick. This equals a percentage of 62.5 sick. The use of pepsin has been recommended by some surgeons as a preventive against chloroform sickness. The result, as Ross has found it, happens to be the same as that obtained when cocaine alone was used. Sixteen got it; ten were sick. It is recommended in doses of two drachms to four drachms ten minutes before the administration of chloroform, and again as soon as the patient can swallow.

If sickness has come on, in many cases it will soon stop; but if it has gone on for a few hours something must be done, as the patient soon becomes worn out. First, on the ground that there is in the stomach a local irritant, we get the indication to remove this, to practice lavage of the stomach, as recommended by Greig Smith. This may be done by the stomach-tube, but much more easily by giving the patient two large breakfast cups of weak tea, without sugar or cream. Almost at once the patient will vomit a large quantity of fluid, and will then often turn round and go to sleep. This seems to be a very good plan for stopping chloroform sickness. It always succeeds. It is liked by the patients. The remedy can be got anywhere.

A second indication is the exhibition of stimulants, on the ground that vomiting is due partly to faintness. Brandy in teaspoonful doses has often a very beneficial effect. Dr. Ross thinks, however, that it is only temporary, lasting two or three hours.

Morphine is recommended in many books; possibly its effect is deceptive. A full dose of morphine will of course stop vomiting, because morphine checks peristaltic movement. But when the effect of the drug passes off, the condition of vomiting is apt to be reestablished. Indeed, it is common for patients after operation, to whom morphine had been given for pain, and who had not been sick prior to its exhibition, to vomit on awakening from the morphine.

There is a class of cases where the patient continues for some days to be sick once or twice a day. It will be found that an evacuating enema will often check this. Sinapisms over the epigastrium are in all cases useful. Creosote in minim doses was tried in four cases; it did not appear to be of advantage in any of them.

THE TREATMENT OF RENAL DROPSY.

NESTOR TIRARD in the *Edinburgh Medical Journal* for June, 1899, tells us that in the treatment of renal dropsy due to acute nephritis there are three dangers to be kept well in mind. These are: (1) The immediate danger of suppression of urine; (2) the danger of interference with respiration and with the circulation; (3) the more remote danger of chronic renal changes, which will in all probability result from the accumulation of effused blood around the capillaries of the glomerulus and within the renal tubules.

In considering these three sources of danger it will be found that the most satisfactory treatment is that by which the dropsy is reduced most rapidly; and indeed, though Dr. Tirard has headed this paper "The Treatment of Renal Dropsy," he says it is necessary to remember that to a large extent in the treatment of renal dropsy must be included a consideration of the general management of acute and chronic nephritis.

The treatment of the dropsy of acute nephritis must include measures which will meet the threefold dangers above indicated; and since the most imminent danger is that resulting from suppression, this demands the first consideration.

To obviate the dangers of suppression, it is necessary to restore the interrupted functions of the kidney as early as possible, so as to favor the renewed elimination of nitrogenous waste. Since, however, the arrested

action is associated with extreme engorgement of the renal vessels, any measures calculated to increase this engorgement must be deprecated; and our efforts must primarily be directed towards the relief of the results of the engorgement, and at the same time to the removal of the existing overdistention of the renal vessels.

The three main channels for the removal of fluid from the blood-vessels are the skin, the intestine, and the kidneys; and their respective excretory functions can be stimulated by diaphoretics, by hydragogue purgatives, and by diuretics. The employment of diuretics is contraindicated in the early stages of acute nephritis, since the majority of these remedies would cause an increase in the caliber of the renal vessels, and would thus promote the engorgement which it is desirable to relieve. Hence, so far as remedial measures are concerned, at the commencement of treatment, we are almost entirely dependent upon diaphoretics and hydragogue purgatives.

Dr. Tirard says he is well aware that some observers, and notably Sir William Roberts, advocate the early use of drugs intended to render the urine alkaline, hoping in this way to prevent the coagulation of blood or of albumin within the tubules. When such coagulation arises it undoubtedly adds largely to the risks of the subsequent development of chronic nephritis, and coagulation is certainly more likely to occur when the urine is highly acid. It has also been urged that not only remote but also immediate dangers are diminished by this form of treatment, and Sir William Roberts states that in no instance, where the urine has been rendered alkaline during the first week of the complaint, has he observed the more severe uremic symptoms or secondary inflammations. To effect this object it is necessary to employ either potassium acetate or citrate, or the salts of sodium, which are converted into alkaline carbonates within the body. These compounds have, however, a powerful diuretic action, and Dr. Tirard considers, therefore, that their use before the initial engorgement is relieved is not devoid of risk. They are valuable when an increase in the urine eliminated and a decrease in the blood-red color indicate that the primary engorgement has subsided, and that the circulation through the kidney is again tending to the normal condition; but so long as the urine is blood-stained and scanty, he prefers to rely upon other measures for the relief of the more urgent symptoms.

By securing rapid action of the skin we are generally able to insure diminution of dropsy, and thus afford relief from severe and persistent headache, which is so frequently a prominent symptom. The action of the skin may be favored by baths, by drugs, and to some extent by copious draughts of liquids. The measures adopted must to a great extent be determined by the circumstances of the patient, and by the amount of nursing assistance which is available; but a little ingenuity will readily overcome difficulties, and permit the early employment of almost any desired form of treatment. Rapidity of action may often be secured by the use of the hot-air or vapor bath, and it is in this connection that the greatest amount of ingenuity will be required. In a well-appointed hospital it is easy to administer a vapor bath, since the necessary apparatus is always at hand. This consists of a large steam-kettle, which is placed at the foot of the bed, with its tube projecting a short distance through a wooden partition into the space at the foot of the bed. The bedclothes are raised around the patient by a large cradle, similar to that employed in the surgical treatment of fractures of the lower extremity. Two of these cradles, if necessary, may be used, so as to increase the space surrounding the patient, and the cradle is then covered with blankets which are closely fitted round the patient's neck, so that his body is completely surrounded with warm, aqueous vapor. It is necessary to fix the tube of the steam-kettle in a position where it can by no possibility come into contact with the patient's limbs, since otherwise considerable damage may be done, the cutaneous sensibility of dropsical patients being so greatly reduced that severe blistering may result before there is any complaint of discomfort.

In cottages the vapor bath may sometimes be employed by seating the patient in a chair, under which a lamp with a large wick is allowed to burn, the patient being surrounded with blankets. This proceeding is, however, extremely hazardous, as there is danger of the lamp flaring and setting light to the woodwork, or to the bedclothes. But, independently of this danger, this form of vapor bath is objectionable, since it requires a patient to be placed in an erect posture when, in all probability, he is in a condition of extreme weakness; and dropsical patients are notoriously heavy and difficult to move. The vapor bath, however, may, with a little ingenuity, be easily arranged, even in a cot-

tage; the bedclothes may be temporarily raised sufficiently by low stools, such as are to be found in most country cottages, or, if these are not available, a few barrel hoops and a pole may be tied together so as to form a good imitation cradle. Yet even then there is the difficulty of arranging the lamp with safety, and in general it is felt to be easier and safer to promote the action of the skin by the use of wet packs or by warm baths; of the two, the wet pack is far more easy to manage, since it involves no apparatus, and entails less movement of the patient. The wet pack may be either hot or cold, and it does not appear to be of much importance which form is adopted. If the cold pack is employed, it is only really cold at the moment of its application, since, as a rule, the cold speedily excites a strong reaction which serves to warm the sheet and to surround the patient with warm vapor. On the other hand, the hot pack may sometimes be applied injudiciously warm, and thus cause pain, or even damage to the skin by scalding, or it may produce a sense of cold as the temperature falls more nearly to that of the body; but, as in the case of the cold pack, the resulting vapor which envelops the body will speedily be formed.

In applying the pack, the patient should be completely undressed, or should only wear a thin cotton night-dress, and the wet sheets should be wrapped round and then quickly covered with successive layers of blanket, so as to envelop the patient completely with the exception of the head, care being taken to leave no portion of the damp sheets projecting beyond the blankets. The time spent in the wet pack must, to some extent, vary according to its effects. Twenty minutes or half an hour is usually sufficient to induce copious perspiration, and when the action of the skin has been well started, continued diaphoresis will follow after the removal of the pack. When the sheets are removed the surface should be quickly dried with warm towels, and the patient should again be enveloped in warm blankets.

If, however, there are facilities for employing a warm bath, and if the patient is sufficiently well to be able to move readily from the bed to the bath and back again, the bath may be used, the water being at a temperature which can be tolerated with comfort by the hand and arm of the nurse; but after the bath it is desirable to promote further diaphoresis by wrapping the patient in warm blankets, directly after he has been quickly dried.

When any one of the foregoing measures is being adopted, free perspiration may be encouraged by allowing the patient to drink copious draughts of water from time to time, while further action may sometimes be encouraged by the administration of full doses of liquor ammonii acetatis. It frequently happens, however, that during the first or even the second employment of any of the above measures, the skin does not act very satisfactorily, and the practitioner must then be guided by his judgment and by observation of the patient as to further treatment.

In young adults, when the dropsy is the result of acute nephritis, it is ordinarily advisable to employ hydragogue purgatives, and to repeat the use of the hot bath or other diaphoretic measure some twelve or twenty-four hours later. On the other hand, when the subject affected by renal dropsy is a man of middle age or of advanced years, it will ordinarily be found that if the bath fails to afford immediate relief, it commonly produces much headache, and, indeed, it may have to be discontinued when the skin does not act, or acts but feebly. Since, however, there are great advantages in the free diaphoretic action of the skin, it is desirable in some cases to endeavor to stimulate diaphoresis by the hypodermic use of pilocarpine. It is sometimes found that relatively small doses of the pilocarpine nitrate will suffice to initiate diaphoresis, which can then be increased by the use of the wet pack or of the hot bath. This drug, however, requires to be employed very cautiously, since although by its use considerable diaphoresis may be produced, it also has the power of promoting excessive action of the salivary glands, and apparently also increased secretion from the bronchial mucous membrane; therefore it is not to be employed with patients who are so far comatose that they are unable to expectorate, nor should it be used with those who are already suffering from edema of the lungs, or when there are indications of cardiac weakness.

If diaphoretic measures afford little relief, or if the relief appears to be purchased at the cost of great suffering, it is well to continue the use of hydragogue purgatives, such as the compound jalap powder of the Pharmacopœia, or of a mixture of jalap powder with scammony powder; and Dr. Tirard has observed that the action of these hydragogue purgatives will frequently be followed by considerable diminution of dropsy, and by gradual increase in the amount of urine that is passed.

In the dropsy of acute nephritis the use of diaphoretic measures is scarcely as imperative as it is in cases of dropsy associated with subacute attacks occurring in the course of chronic nephritis. In acute nephritis, especially in the form resulting from scarlet fever, free purgation is generally followed by rapid diminution of dropsy.

STATES OF OVEREXCITABILITY, HYPERSENSITIVENESS, AND MENTAL EXPLOSIVENESS IN CHILDREN, AND THEIR TREATMENT BY THE BROMIDES.

CLOUSTON writes on this subject in the *Scottish Medical and Surgical Journal* for June, 1899. After discussing the general conditions named, Dr. Clouston says that so far as his experience of drugs goes, he has found the bromides by far the most effective in restraining normal nerve cell action from assuming pathological forms. They must be given judiciously and with reference to the age of the patient, the acuteness and the nature of the symptoms, and the effects of the drug in each case as seen by a skilled observer. They must often be given fearlessly in large doses up to the point when the symptoms of bromism are beginning to show themselves. One thing is certain, if they are to do any real good, they must be given for long periods. A few doses or an intermittent course of them at first is of little good, and when they have done their work they must be gradually discontinued and not suddenly stopped. The general health, the weight, and the progress of the child's nutrition must be most carefully observed all the time they are given. Dr. Clouston does not advocate bromide treatment alone—far from it; he gives tonics and food medicines at the same time as the bromides, and the diet must receive never-ceasing attention. He thinks milk will be found the sheet-anchor in dieting all such neurotic children. Environment, too, fresh air, suitable amusements, companionship, control, employment must be looked to, and the schoolmaster must be regarded for the time as an aid to treatment and so under the doctor's orders.

Such an explosive brain need not remain uneducated, but it must receive its education in a physiological and medical fashion. Education must submit to be one of the factors that go to develop such an organism on sound lines, so that the greatest possible result of work compatible with health and happiness may be attained in after life. In a few cases, if there appear very acute phases of the illness, a few grains of sulphonal (from five to ten) twice a day, combined with the bromides, Dr. Clouston has found very useful by accentuating the effects of the latter. The effect we aim at is to diminish undue cell catabolism and reactiveness in the cerebral cortex without interfering with brain anabolism or general body development. And we keep in mind that such effect must be carefully watched so that it does not go too far.

NOTES ON THE TREATMENT OF THE DISEASES OF THE NERVOUS SYSTEM.

GRAHAM BROWN, of Edinburgh, writes in the *Scottish Medical and Surgical Journal* for June, 1899, upon this theme. He first deals with the pathology of syphilitic nervous disease, and then goes on to point out that the poison of syphilis frequently attacks the nervous tissues and produces far-reaching effects. In combating these lesions the antisyphilitic treatment requires to be of the most thorough kind, and it is usually advisable to employ both mercury and iodide of potassium.

Let us take for an example some specific cord affection such as syphilitic myelitis. How are these remedies to be administered in this case? Now, it is no doubt true that the action of mercury can be attained by administration by the mouth. But in doing so, if we are to obtain the full effect of the drug, we have to give doses which are very liable to produce gastrointestinal irritation and salivation. So much is this the case that if we give even so mild a preparation as gray powder for any length of time, we have to combine some opium with it so as to control its action on the bowel. This addition of opium is, in Dr. Brown's opinion, inadvisable, and yet we must secure a thorough mercurial action. He believes that in these cases of syphilis of the nervous system the mercury should not be given by the mouth. Two other methods are open to us—we may have the mercury rubbed through the skin, or may give it hypodermically. Of these, the method by friction is usually to be preferred.

In such a case, then, as we have supposed, if we resort to the method of inunction, directions should be given that from thirty to sixty grains of mercurial ointment be rubbed into the skin daily, a different part of the body being selected on each occasion. The patient may begin, for example, with

the right arm, then the left arm, the right thigh, the left thigh, and then *da capo*. A square of linen rag is taken, sufficiently large to cover amply the area of skin to be rubbed, and on it a portion of the quantity of ointment to be used is placed. With this the patient is instructed to rub the skin vigorously, adding from time to time a little more of the ointment until the whole quantity has been rubbed in. This operation should take from ten to fifteen minutes. Thereafter the square of rag is to be laid over the skin surface, covered with a layer of cotton-wool, and retained by means of a light bandage. The inunction is to be made at night, and the patient sleeps with the rag and bandage so adjusted. In the morning the vigorous application of soap and hot water will remove any traces of unabsorbed ointment.

In certain continental watering-places, where the treatment of syphilis is specially attended to, the inunctions are made by means of a glass instrument, shaped like a handle, and bearing on one end a hemispherical surface of ground glass, with which the ointment is rubbed in. The inunctions are made by a skilled rubber, about an hour after the patient has left a warm bath. Dr. Brown thinks, however, that the method of inunction which he described first is the better for such cases as those we are now considering.

Such inunction as this should be made daily for a fortnight, or if possible three weeks. There should then come a pause of a week, and, if no stomatitis has developed, a new series of frictions may then be entered on. After the second series of inunctions is completed a pause of a month's duration is advisable, after which the treatment should be recommenced. To be complete, these series of inunctions should extend (with intervals of increasing length) over a period of three years. The necessity of taking care of the teeth and gums during such treatment as this is well known, and it is advisable to use a mouth-wash of chlorate of potash.

While Dr. Brown believes that as a rule the method of inunction is to be preferred, there are some cases in which it may be advisable to administer the mercury hypodermically. When the symptoms are severe, and the need for mercurial action is pressing, then the subcutaneous method, which is more rapid and energetic in action than inunction, is to be preferred. It is not, however, without its inconveniences. It is painful, and if due care is not taken much induration and even abscess formation may result.

The syringe used must be carefully sterilized. The needle, which should be of platinum, is to be heated in a flame just before use, and cooled in carbolic oil. The injection is best made in the gluteal region, and the solution should be injected deeply into muscular fiber. The skin is to be carefully cleansed before the operation.

Various preparations of mercury have been made use of for hypodermic administration. Gray oil has been much used, as well as calomel in vaselin, but neither of these preparations is to be recommended.

The red iodide (mercuric iodide) is frequently employed for injection. With the aid of a little iodide of sodium it is readily dissolved in the proportion of one grain in sixty-four minims of distilled water. Of this solution from two to six minims may be injected. An even better preparation is that of Panas:

> Mercuric iodide, 0.4 gramme;
> Sterilized olive oil, 100 Cc.

The oil is purified by washing with distilled water, and, after separating, it is again washed with absolute alcohol. It is finally sterilized. Of this solution one cubic centimeter (nearly seventeen minims) contains about four milligrammes (one-tenth grain) of mercuric iodide.

Delpech's solution for hypodermic use, which is much employed in Paris, consists of an ammoniated peptone of mercury of the following composition:

> ℞ Hydrarg. perchlor., 10 grammes;
> Peptone (dry), 15 grammes;
> Ammon. chlorid., 15 grammes.
>
> Misce.

This preparation is to be dissolved in distilled water, or preferably in glycerin, in the proportion of 40 centigrammes in 30 grammes.

There is, finally, sozo-iodol-mercury, a preparation which has recently come into some vogue for intramuscular injections in syphilis. Of this substance 2½ grains is to be dissolved, along with five grains of sodium iodide, in 100 minims of distilled water. The resulting solution may be given hypodermically in doses of ten minims.

During the greater part of this period iodide of potassium should also be given, the dose depending on the individual, but being in any case as large as can be borne. It may be begun with thirty or forty grains in the day, and rapidly increased as far as seems advisable in the particular case being treated.

In cases in which the iodide has to be ad-

ministered for long periods, use may be made of a preparation called iodalbacid by its discoverer, Dr. Blum, of Frankfort. It is an iodine-albumin (analogous to iodo-thyrin), formed by the action of iodine on moist albumin. When taken internally it readily breaks up, liberating its iodine (of which it contains about ten per cent), and not producing the disagreeable effects sometimes seen after the exhibition of potassium iodide. Iodalbacid should not be used in cases in which a rapid action is desired. In these iodide of potassium is to be preferred. But for the more chronic cases it has been found very useful. It is freely soluble in water, but is best given either in cachets or in the form of tablets. The quantity which should be administered daily is from three to six grammes (45 to 90 grains) in divided doses.

THE TRANSPLANTATION OF A HUMAN OVARY.

Dr. JAMES H. GLASS, in the *Medical News* of April 29, 1899, records an interesting case. A young woman who had had a double oophorectomy performed some two years previously applied for relief from the train of symptoms, lapse of sexual instinct, mental depression, insomnia, giddiness, palpitations, heat flushes, pelvic pains, *et hoc genus omne*, which are not uncommon sequelæ of that operation. General treatment proving of no avail, on May 11, 1898, ventrofixation was performed. A second patient, aged seventeen years, married, having suffered serious injury during parturition, which had resulted in such deformity that future child-bearing would inevitably entail Cæsarian section, it was decided to render her sterile by removal of the tubes and ovaries. On May 14 both patients were, with their own consent, anesthetized together, with the view of transplanting the healthy ovary about to be removed from the one woman into the peritoneal cavity of the other. The healthy ovary, immediately on removal, was placed in gauze kept moist with warm normal salt solution. When the first operation was completed, the vagina in the other patient and the connective tissue down to the cervix were incised. The latter was then stripped up to the peritoneum with the finger, and this membrane carefully raised from its attachments to a point approximating the normal position of the ovary. Oozing was controlled by compresses of hot saline solution, the ovary anchored in position by closing, with two tiers of fine cumol catgut, the canal through which it had been introduced, and the vagina lightly packed with silver gauze. The recovery was uninterrupted. After six days a condition of sexual erethism lasting for several days and accompanied by erotic dreams occurred. After sixteen days menstruation began and lasted two days. It was then absent until December, when it again appeared and was normal in every way. Eight months after the transplantation the patient had regained her equilibrium, and was apparently quite well and healthy. The value of this observation appears to be considerable; for while much of the patient's relief may possibly be attributable to the ventrofixation, the return of the sexual instinct, the recurrence of the menses, and the improved metabolism would appear to be undoubtedly due to the transplantation of the ovary.—*New York Medical Journal*, May 6, 1899.

A SIMPLE METHOD OF REDUCING DISLOCATIONS OF THE SHOULDER BY MANIPULATION.

MILLER (*Scottish Medical and Surgical Journal*, May, 1899) contributes this paper because, in the first place, he finds that on all hands there is a tendency to describe and speak of Kocher's method as if it were the only method of reducing dislocations at the shoulder-joint by manipulation. In the second place, he has for more than twenty years employed and taught a method which is simpler, and in his hands has proved unfailing. Thirdly, a few months ago a country practitioner told him that he had reduced a dislocation of the shoulder without chloroform, in a strong man, by this method, which he remembered to have seen the author employ in the Infirmary. The dislocation was a day old, and had resisted attempts made with the heel in the axilla.

In the dislocated position the articular surface of the humerus is completely displaced from the glenoid. When, however, the arm is lifed upwards into a position at right angles to the body, the smooth articular surface of the humeral head is brought very near the smooth glenoid surface. The two may even be brought slightly in contact, when, one can imagine how easily, the head of the humerus may be made to glide back into position. Many authorities mention how mere elevation of the arm has reduced dislocations that were very recent. Perhaps some spontaneous reductions may occur in this way.

Another result from this elevation of the arm is that the locking of the neck of the humerus on the edge of the glenoid is undone. This being so, it requires only slight internal rotation of the humerus in its long axis to make the head of the bone glide into its normal situation. Dr. David Waterston, in a recent pamphlet on Kocher's method, extracted from the *British Medical Journal*, says that reduction is prevented by the locking of the neck of the humerus and glenoid edge described by Caird, and that it is the *inward* rotation that "disengages the indent from the tip of the glenoid."

The experience of the author is that reduction by this method occurs without any snap or jerk, and that often the operator is unaware of the reduction (as also the patient) till the filling out of the deltoid region and free movement of the joint prove the reduction to be complete.

The author describes the process by manipulation more exactly. Suppose a recent case. The patient being seated on a chair, the surgeon stands at the injured side (say the right) and takes the arm in both hands, one (the left) being above the elbow, the other (right) above the wrist, the arm being bent to an L at the elbow. An assistant stands at the patient's other side and steadies the scapula with both hands.

The surgeon then (having of course made sure that there is a subcoracoid dislocation) gently and slowly elevates the arm, making traction outwards from the body, at the same time assuring the patient that what he is doing will not be very painful, and that it is not the actual reduction but merely a preliminary. If the patient should resist, then the surgeon may wait for a while, or administer an anesthetic.

When the patient has ceased to resist the arm will come slightly towards the surgeon; then is the time to rotate the humerus by dropping the hand, and the head of the humerus will glide into position. If the dislocation has been "out" for some time —a day or two—then the patient should be laid on a table, and an anesthetic administered. The same procedure as above is then gone through. If reduction does not occur at once, the humerus may be freely circumducted, so as to break down any adhesions that may have formed, and to widen the opening in the capsule.

The author repeats here that he has never failed by this method, except in one or two cases in which every other means failed and the knife had to be called into requisition. On the other hand, this method has succeeded in his hands and in others' when other procedures had failed.

In one case he succeeded single-handed. The patient was a stout old man. The author found him in bed. He turned him on his sound side, got up on to the bed and stood over him, then grasped the dislocated arm by the elbow, and extended the arm from the side. The head of the humerus quietly glided into its place, much to his satisfaction as well as his patient's.

Reduction may be aided sometimes by a maneuver which is recommended by many authorities, viz., pressure in the axilla, with thumbs or fingers on the head of the humerus (Avicenna's method).

VAGINAL ABLATION IN PELVIC INFLAMMATIONS.

PRYOR (*American Journal of Obstetrics and Diseases of Women and Children*, May, 1899) enters an earnest plea, backed by one hundred operations without a death, for the vaginal operation in pelvic inflammations. Vaginal extirpation of the ovaries, tubes, and uterus is accomplished by the formation of four pedicles. These pedicles are secured by forceps and slough; therefore they must be treated extraperitoneally. The very essence of the vaginal operation is the extraperitoneal treatment of the stumps. The vaginal mucosa is incised at the posterior fold, over the point where the peritoneum is reflected from the uterus. Laterally this incision reaches the level of the sides of the cervix. The anterior incision should be made, not in the dense cervical tissue, but in the loose reticular tissue between the uterus and the bladder. Both the anterior and posterior incisions are crescentic in shape. Their ends do not meet, but between them a strip of mucous membrane, an eighth of an inch in width, is left. The value of this will be appreciated at a later step. The author finds that in most cases he can bore into Douglas's pouch with the finger, and always either does this, or at least dissects the tissues up as high as he can, generally using the fingers. In separating the bladder from the uterus he finds assistance from the intra-uterine traction forceps, which fix the uterus, whether the dissection is effected by means of the finger or by toothed forceps and scissors.

In this, the first stage of the operation, the author seeks no more than the liberation of

the uterus from its normal attachments, anteriorly and posteriorly. This being accomplished, he introduces his finger along the middle line of the posterior surface of the uterus as high as can be reached. In doing this attached organs are liberated only so far as will enable him to make this track. The author studiously avoids any attempt at freeing the adnexa at this stage. So far there has been no hemostasis. The bleeding which occurs is slight and comes from small anastomotic branches only. The traction forceps are now withdrawn and each lateral angle of the cervix is seized with bullet forceps. The closed, blunt scissors are inserted into the uterus to determine the direction of its canal. The anterior wall of the uterus is then split as high up as can be seen. An assistant holds up the bladder with a narrow retractor, and the author seizes each side of the cut in the uterus with Péan's toothed traction forceps. These are twisted outward, and as this is done more of the anterior wall of the uterus rolls from beneath the bladder. This is also split in the middle line, and other traction forceps are applied upon each side of the cut in the uterus as high as its angle. This progressive median section is repeated until the cornua uteri appear. When this occurs the author withdraws the perineal retractor and passes the grooved director up behind the uterus in the track his finger has made for it. The assistant not only depresses the perineum with this, but he also draws the uterus forward, so that the groove in the director may be both felt and seen above the fundus. Into this groove the author inserts the bistoury and accurately splits the uterus along the center of its posterior wall. The organ is now in halves. Still no attempt at hemostasis has been made.

It is well to consider what has been accomplished thus far. After entering the posterior cul-de-sac, an attempt to liberate the adnexa would be most difficult because of the presence of the uterus and because of the *bilateral fixity*. Further, any very general liberation of the adnexa, intestines, or omentum would only permit them to fall between the grooved director and the uterus, and thus render them liable to injury when the posterior surface of the organ is split.

After splitting the uterus the bilateral fixity is abolished, and each half and its adnexa are to be dealt with separately, free from any attachment to the other.

A pair of traction forceps is fastened into the fundus of each segment, and into each half of the cervix is locked a bullet forceps. The right half of the uterus is shoved up into the pelvis and the left is drawn down. This latter, being free from all fixity upon the right, will swing from beneath the bladder, so that in most cases its cavity will look directly out and the entire half of the uterus be outside the body, the cervical portion being over the perineum, and the fundal beneath the pubes. The anterior and posterior retractors are withdrawn, and no instruments pass into the vagina except the two traction forceps which have hold of the right half of the uterus. While the left segment is held outside the body, the left hand is introduced into the pelvis up to the thumb, or for a distance of nearly five inches. This will enable the index-finger to reach the pelvic brim in all cases.

Bearing in mind that whereas the hand is to one side of the uterus, it is also upon the posterior face of the left broad ligament, the author begins the separation of the adhesions. As manual dexterity controls the ease with which this can be accomplished in all suprapubic work, so also it determines the facility with which the adherent ovary and tube may be liberated through the vagina. The author states that if he were to compare the two methods, he would say that it is easier to free through the vagina all organs which are adherent below the pelvic brim. The attachment of omentum and intestines to the adnexa can be severed either by the fingers or by scissors. In the latter act it will be but necessary to hold up the bladder with a retractor. The adnexa will be found most closely applied to the posterior surface of the broad ligament and to the lateral pelvic wall. Inasmuch as the adventitious union is between the peritoneal surfaces, the separation of the agglutinated tissues proceeds along the usual "plane of cleavage."

If the dissecting fingers evacuate a pus pocket, the author states that he is secure in the conscientiousness that its contents will escape below and will not enter the higher abdominal cavity. If such an event occurs—and many pus tubes are exceedingly friable—he withdraws his hand, cleanses it, and scrubs the pelvis dry. Very rarely in these pus cases will it be found that the intestines are sufficiently free to prolapse into the vagina during the operation; but in such an event they can be kept in place by a gauze pad. The author has seldom seen a knuckle of small gut during his operations. In fact, not often is the small intestine adherent to either

the uterus or tubes, but all false attachments of the coils of small intestine are interintestinal. The author states that in his vaginal work he is well beneath all such complications and they are avoided.

When he has liberated the left adnexa he returns them and their half of the uterus into the pelvis, the uterus being under control by traction forceps. He now introduces the right hand into the pelvis and liberates the right adnexa. This is accomplished in exactly the same way as upon the left side, only he is careful to determine whether the appendix vermiformis is attached to the adnexa. If it is, anterior and posterior retractors are introduced and it is inspected. If the appendix is merely adherent it is carefully liberated without doing damage to it. By no means are all adherent appendices diseased.

After freeing the right adnexa he draws them from beneath the bladder and grasps the upper border of the broad ligament with forceps. This is applied from above downward, so that the strength of the forceps is upon the ovarian artery, and the point of the forceps down. The broad ligament is now cut to the point of the forceps, and another forceps is applied in the same way to the uterine artery. The right half of the uterus and right adnexa are removed. The two forceps are dropped and the left adnexa and half of the uterus similarly treated. When liberating the adherent adnexa the author appreciates the importance of leaving a narrow strip of vaginal mucous membrane between the anterior and posterior incisions, for, did he not do so, he might possibly rip up the cervix from the pelvic floor and thus tear the uterine artery by the forcible introduction of the hand into the pelvis. He emphasizes one feature of this method of operating — namely, the absence of all attempts at hemostasis until the two sets of adnexa are entirely free. Otherwise, in certain cases of small vagina, the forceps would be very much in the way, and in rotten tissues there would be danger of tearing them off the pedicles they hold.

Attention is also called to the method of applying all the forceps from above downward, which insures their being, together with the stumps they hold, in the vaginal vault. When the forceps are dropped those on the ovarian arteries fold the top of the broad ligament over the pairs on the uterines, and in this way the latter are prevented from touching the bladder. As the forceps are applied upon each side the halved uterus is drawn to the opposite side, in this way increasing the distance between the cervix and the ureter.

The pelvis is now wiped dry and a gauze pad is introduced. The table is tilted into the Trendelenburg position, and a careful inspection of the pelvis made for bleeding from aberrant vessels. Upon each side a strip of iodoform gauze is introduced between the forceps and the vagina. Each set of forceps is held aside by long, angular retractors, and the vagina is filled with gauze. The dressing is made to project above the points of the forceps at all points, and is snugly applied—ten or a dozen pieces, each a yard long and four inches wide, are usually introduced. The patient is lowered into the horizontal position and a self-retaining catheter introduced. The sphincter ani is dilated, for the bruising of the perineum causes spasm if the sphincter remains active, and the bowel should be open for the early passage of gases and feces.

The features of the operation, as performed by Pryor, are the liberation of all the adherent organs before any hemostasis is attempted, and the application of the pelvic Mikulicz dressing. The first is essential to the formation of the pedicles, so that they may be strictly extraperitoneal, while the latter insures the retention of these pedicles in their proper position while isolation of the field of operation and its sterilization are accomplished by the dressing.

A certain mortality from this operation is found abroad to be due to late infection occurring after the forceps are removed. This is entirely due to a disregard of the possibilities of the pelvic Mikulicz. In the first place, this dressing drains and sterilizes the pelvic pouch.

Attention is called to the fact that no pins are used to fasten the stumps outside the peritoneal sac in this operation, as is done in the old extraperitoneal suprapubic hysterectomy, but this is accomplished in vaginal ablation by the forceps for two days only. When these are removed the ovarian stumps, not being held, have a tendency to snap back into the peritoneal pouch, and Pryor is convinced that a part of the European late mortality is due to this. The application of the pelvic Mikulicz prevents this. As the first essential to a successful vaginal ablation was found to be the formation of the stumps so that they would be extraperitoneal, so the second embraces the proper application of

dressings which will maintain these stumps outside the pelvis while the union between the bladder and rectum is forming.

Another attribute of the method of forming the stumps, not less important than the one mentioned, is that by it the forceps cannot touch any part of the pelvic contents, and hence fistulæ are not seen to follow the method advocated. Apart from the sentimental objection to an abdominal scar which is held by some women, there are several real objections to making a section of the abdomen in these pus cases. In removing pus foci through an abdominal incision they must be dragged through a cut which it is expected must close by primary union. Even to-day occasionally an abdominal wound or stitch-hole suppurates.

THE TREATMENT OF INGUINAL HERNIA IN CHILDREN.

ECCLES (*British Medical Journal*, May 13, 1899), after a brief discussion of the anatomy of hernia in children, states that when one has to deal with a large number of congenital inguinal herniæ the uselessness of the skein of wool truss becomes only too apparent. The arguments for and against its use are: For—(1) Its simplicity; (2) its cheapness; (3) the ease with which it can be changed; (4) that it can be worn in the bath, and a dry one applied immediately afterwards; (5) that no attention is required except at the moment of changing. Against—(1) It is inefficient, and therefore a false security, except in the simplest of cases; (2) it exercises little if any pressure directly over the hernial apertures, and thus no likelihood of a permanent cure is gained; (3) it may cause excoriation.

The arguments for the spring truss are: (1) It is very efficient in retaining the viscera within the abdomen; (2) it exercises pressure directly over the inguinal canal, and thus tends to bring about obliteration of the processus vaginalis, and to enhance the prospect of a lasting cure.

In discussing the application of a spring steel truss to an infant, it may at once be conceded that an ill-fashioned instrument, covered with impure red composition rubber, one which is either too small or too large, or one that is improperly adjusted, will inevitably cause trouble. On the other hand, a well made truss, covered with pure rubber, with no seam that is next to the skin, of the right size, and properly adjusted, but seldom causes much inconvenience.

The method of measurement for an inguinal truss for an infant or young child is the same as that for an adult—that is to say, the tape should be carried round the pelvis obliquely, at the base of the sacrum behind, half-way between the crest of the ilium and the top of the great trochanter at the side, and above the symphysis pubis in front.

For a single truss the actual number of inches thus obtained is the correct size; for a double truss it is often well to add an inch to this measurement, because a double truss does not stretch at all. The adjustment of a truss at so tender an age is of the utmost importance. The inguinal canal in infancy is practically non-existent, since the deep abdominal ring lies almost directly behind the superficial, but both, it must be remembered, are placed above the level of the pubic bone, and therefore of the symphysis. In children the upper part of the symphysis pubis is considerably higher than it is generally supposed, or than it appears to be. There is, however, a distinct guide to the level required, for every child, and particularly a well-nourished one, presents a curved line running across the lower part of the abdomen, known as the fold of Venus, which accurately indicates the upper limit of the pubic bones.

The important fact to be borne in mind is that the whole of the pad of the truss must lie above this line, for if it be placed below it, the soft parts upon which it will then impinge must of necessity be compressed between the pad and the unyielding bone beneath; and, moreover, the pad would in no way tend to retain the intestine, seeing that it is placed altogether below the site of the rings through which the protrusion passes. Very soon such pressure would cause irritation, and then excoriation; but this untoward result can be entirely avoided if the truss is worn at the proper level, where it will press only on the soft parts. Here, moreover, it has but little tendency to shift its position, or to be displaced by the intentional acts of the patient.

A truss thus carefully adjusted must be worn by the child continually, day and night, sleeping and waking, crying and peaceful. Temporary removal is necessary for the purposes of cleanliness, and when this is needed it should be undertaken with the patient recumbent, and when left unguarded by the

truss, the hernial aperture should be protected by the nurse's finger or thumb.

It is remarkable how rapidly, often within a few weeks, after the application of a truss of a proper form for a congenital inguinal hernia, descent of the viscera ceases, but such would soon recur if the truss for any reason were discontinued. Permanent closure of the processus vaginalis will be obtained in the majority of cases only after a continuous action of the pressure of a spring truss over a period of some years. A cure, therefore, can be safely predicted, but the truss should not be discarded until the child has reached the age of at least three years.

Treatment by trusses should be begun at the very earliest possible moment, as for each year of life which is passed without the use of the instrument there is a corresponding diminution in the probability of a permanent cure. It is highly fallacious to aver that a hernia in an infant will become spontaneously cured without active treatment by truss pressure. Such a result is so extremely rare that it must be disregarded in practice.

Congenital inguinal herniæ in female infants are even more likely to be cured by treatment than those in male subjects. In certain instances young boys may develop very large scrotal herniæ, the outcome of neglect, which may not be efficiently controlled by an ordinary truss. In such cases a rat-tail or a forked-tongue truss will be required. In all cases of hernia in the young, attention should be paid to the encouragement of muscular development by means of calisthenics.

There are two chief arguments against a radical operation with a view to a cure in the case of young children, say before three years of age. One is the strong probability that a spontaneous cure will result, provided efficient truss pressure is secured, and a proper diet is given the patient. That such a happy termination does frequently ensue is, the author thinks, the experience of most practitioners, and it is certainly not common to be given the history of a hernia having been present in infancy, then an apparent cure, and afterwards a relapse in later life. This fact would seem, therefore, to be a valid argument against the necessity of an operation.

The other argument that is put forward is that the wound formed so near the urinary apparatus in a child is very liable to become septic. The author does not think that this has much weight, for it is comparatively easy to prevent infection if the wound is made, as it should be, in the inguinal region and immediately closed with a collodion dressing of small size. It is a great mistake in all operations about this region in children to apply a bulky dressing, for such is much more liable to become contaminated than is a small one.

The following are the cases in which an operation may be advised:

1. Where a child is being properly fed, but in whom a hernia after a fair trial is not retained by a suitable truss, so that there is little or no chance of a spontaneous cure.
2. Where part of the contents of the sac are irreducible.
3. Where a truss has been worn for at least three years, but with no apparent cure of the protrusion.
4. Where a child has reached the age of at least three years, but has never worn a truss.
5. Where a herniotomy has to be performed for strangulation.

Now, it is unusual for a hernia in a child not to be adequately controlled by a proper truss. It is rare to have irreducible contents in early life. A truss generally brings about a cure. The subject of a hernia in infancy is not often in the present day allowed to go for three years without treatment, and strangulation seldom needs an operation in children; so that it will be seen that the cases where a radical operation is needed are not by any means common.

ENCYSTED VESICAL CALCULI.

W. Bruce Clarke (*British Medical Journal*, May 13, 1899) in 1891 published an account of six cases of encysted vesical calculi. Since that date he has had thirteen other cases under his care, and by the kindness of his colleagues at St. Bartholomew's, has been able to describe eight other cases, most of which he has had the good fortune to see during their stay in the hospital, making a total of twenty-seven cases in all to form the materials for his paper.

Of the six cases that were recorded in his first paper, no fewer than three were due to pieces of bone that had found their way into the interior of the bladder from the surrounding structures. The other cases were instances of true encysted calculi, which had been formed presumably in the kidney, and then, finding their way into the bladder, had either dropped into a sacculus which was ready for their reception, or had become fixed in some depression of the bladder wall, and

had by their gradual growth formed a sacculus for themselves. It is probable that in at least one of the cases referred to in this paper, this was the way in which the calculus was formed; for when this bladder was inspected with a cystoscope two years after the removal of the stone, no trace of a sacculus was to be seen. In another case the sacculus was most likely quite independent of the stone, for stones were found on a second occasion in another part of the bladder, and the sacculus originally occupied was empty.

It has often been assumed that these sacculi are all due to what are called tunicary herniæ, and depend on the pouching of the mucous and submucous coats between the bands of muscular fibers. The author, however, is convinced after an examination of numerous specimens both before and after death, that the muscular walls very often form a constituent part of these sacculi. It is, moreover, often very difficult to determine with accuracy in all cases the nature of the sac walls, owing to the inflammation which has been set up by the stone which has long lain there.

When operating on these cases there is one point which must always be considered, namely, what is to be done with the empty sac from which a stone has been removed. There is no doubt that many of these sacs, especially when prolonged attacks of inflammation have destroyed their epithelial lining, tend to contract and cicatrize of their own accord if their orifice is of sufficient size to preclude the possibility of pus stagnating in their interior. If, on the other hand, the orifice of the sac is small and contracted and the sac itself is of large size, some means must be adopted for its independent drainage, and the route which is selected must depend on the condition of the patient and the position of the sacculi. As most of these saccules are situated near the base of the bladder, it will probably be advisable, if they demand drainage, to drain them through the perineum, and to make a temporary channel between the bladder and rectum, if this is possible.

On looking over the symptoms which these cases presented, it is difficult to single out any one sign which might be held to be of considerable diagnostic value. Cystitis of longer or shorter duration appears to have been present in every one of the cases, but as the great majority of them—namely, sixteen out of twenty-one—were above sixty years of age, and had in addition some evidence of enlargement of the prostate gland, the cystitis was naturally in the first instance ascribed to that condition, and not to the presence of a calculus. In several undue tenderness of the prostate gland when examined per rectum, and rectal tenesmus, were marked symptoms. Only three of the cases were under forty years of age, one of them being but fourteen. The only two cases in the list between the ages of fifty and sixty had suffered from stricture; and it is noteworthy that two of the first six cases also had suffered from stricture, and were likewise between fifty and sixty years of age.

The difficulties of diagnosis were also enhanced by the fact that in several instances washing out the bladder was quite sufficient temporarily to restore the urine to a healthy condition. It is, perhaps, also worthy of note that in several instances the stones when extracted proved to be so thickly coated with mucus that even when they lay upon the table no audible note could be obtained when they were struck with the beak of the sound. This affords a ready explanation of the difficulty which may be experienced in detecting a stone in the bladder under certain conditions.

In six of the twenty-one cases no operation was performed; in most instances, because the patient's condition was too bad to admit of any chance of alleviating his symptoms. Of the remaining fifteen that were submitted to operation, four died and eleven recovered.

The fact that in less than half the cases was the existence of the stone known before the operation was undertaken certainly affords an additional argument for exploration of the bladder in those cases of cystitis which do not yield to ordinary treatment.

In one instance the patient had been castrated to relieve his prostatic symptoms, and the stone was only detected after death. It is quite possible that if his bladder had been explored at an earlier period he might have retained his testes and had his life prolonged after removal of the stone.

The author has since that time made it a rule to explore the bladder in obscure cases of enlarged prostate which remain irritable after repeated washing, and has never had occasion to regret this plan of treatment, which no doubt largely accounts for this series of encysted calculi. Even if no stone is detected, the patient usually derives great benefit from the operation, owing to the rest which is afforded to the urethra.

THE SURGICAL TREATMENT OF PELVIC INFLAMMATORY LESIONS BY ABDOMINAL SECTION.

BALDY (*American Journal of Obstetrics and Diseases of Women and Children*, May, 1899) states that the following is the status of the abdominal section for pelvic inflammatory lesions, as is demonstrated by his own quoted work and by that of many other surgeons:

1. The operation is the safest in this particular class of cases or almost any other to which abdominal section is applied.

2. Shock rarely enters into the case as a serious sequel; never more so than in the vaginal operation.

3. Drainage is the exception; it is the rule in vaginal work.

4. Hernia occurs in not more than one per cent of cases operated upon.

5. Women are not prone to complain of the abdominal scar.

6. The patient could arise from her bed and return to her home at as early a date as after the vaginal operation, were it considered advisable for her to do so.

7. A completed operation is always possible by the abdominal route; in a large percentage of the bad cases it is impossible by the vaginal route.

8. The technique of the abdominal operation is much more easy than that by the vagina.

9. There is less danger of damage to the hollow viscera by the abdominal route; if such injury does occur there is less danger of infection from such injury, and the damage is more readily repaired. As a matter of fact such injuries are impossible of repair by the vaginal route.

10. The mortality of the abdominal operation is all that could be desired, and no other major operation shows a better record.

TREATMENT OF EXSTROPHY OF THE BLADDER BY URETERAL RECTAL ANASTOMOSIS.

JOSSERAND (*Revue Mensuelle des Maladies de L'Enfance*, June, 1899) cites statistics of this operation to the effect that of a total of eighteen cases there were but two operative deaths—one from shock, and one from infection. There were a number of cases of urinary fistula lasting but a short time, and complicated by localized peritonitis. Pyelonephritis has been observed in but a single case, namely, that of Mikulicz, death occurring in this instance four months after operation. Several cases have been followed for a period of from six to fifteen months without showing signs of kidney infection. Function was perfect in all but two cases; the urine could be retained for three to four hours, sometimes six to seven hours, and the patients could sleep all night without being incommoded. Tolerance of the rectal mucous membrane has always remained perfect.

The author reports the case of a child, five years old, on whom he operated. A bougie was passed into each ureter; the mucous membrane of the bladder was then circumscribed by an incision carried down to the parietal peritoneum, and was dissected up. The ureters were isolated and mobilized for a distance of about one and a half inches; then the bladder was resected, with the exception of a small area placed about the ureteral orifices.

The operative region was then thoroughly sterilized anew, and a celiotomy was made an inch above the wound left by the dissection of the bladder. The sigmoid flexure of the colon was drawn out, walled off by sterile compresses, and held in place by the fingers of the assistant. A longitudinal incision was then made along the convex border of the sigmoid; into this incision the trigonum was slipped. The anastomosis was completed by two layers of continuous sutures, one muco-mucous, the other sero-muscular, for the intestine, and muscular for the bladder. When these sutures were completed the bridge of tissue which separated the two parietal wounds was divided, and the viscera were replaced in the abdomen. The parietal wound was then closed except at the lower part, where the separation of the pubic bones made this impossible. This space was tamponed with gauze. The wound ran a fairly satisfactory course. For the first few days there was some incontinence; afterward the child could retain the bowel contents during the entire night.

SINUS THROMBOSIS SECONDARY TO SUPPURATIVE OTITIS MEDIA.

In a review of otology by MILLIGAN (*Practitioner*, May, 1899) the subject of sinus thrombosis secondary to suppurative otitis media is considered, and Whiting's summarization is quoted as follows:

1. The indications which justify an operator in ligating the jugular before exposing the sinus should be very decided and as follows: (*a*) The existence of chronic otorrhea;

(*b*) pronounced manifestations of pyoseptic-emia, high fever, sudden remissions, and repeated rigors; (*c*) metastases; (*d*) Griesinger's symptom—occipital edema; (*e*) edema of the eyelids of corresponding side; (*f*) tenderness along the course of the jugular in the neck, and perhaps the cord-like feeling of the infected vein; (*g*) beginning neuroretinitis—a majority of these symptoms should be present.

2. The indications for ligation after exposing the sinus and recognizing it, but before opening it: (*a*) The presence of a clot extending well down into the bulb, and dis integrated in its lower portion (as indicated by aspirator), associated with distinct pyemic symptoms, although metastases are absent; (*b*) the display by the sinus of respiratory movements would render probable the admission of aerial embolism to the heart unless the vein were first tied.

3. Indications for ligation after exposing and opening the sinus: (*a*) The presence of a large thrombus, extending down into the bulb, and having undergone purulent liquefaction in the deep bulbous portion, which may not have been diagnosed until the sinus was extensively opened; curetting deeply in the neck under such conditions is fraught with imminent risk to the patient unless the vein is tied. (*b*) Inability to reestablish the circulation from below, whether the clot has or has not disintegrated, and whether or not there has been tenderness in the neck. (*c*) Inability to reestablish the circulation from either direction has aroused some discussion as to the advisability of ligating both jugulars.

In cases of ear disease of doubtful origin, and where the symptoms complained of are mainly of a subjective character, it is a good and wise rule to carefully analyze the urine.

Dowling has found that certain cases, accompanied by such symptoms as tinnitus, dull aching pain about the mastoid process, deafness, slight irregularity of gait, etc., are associated with renal changes. He believes that the retention of certain products in the blood produces a toxic irritation of the auditory filaments, and possibly causes an albuminous degeneration similar to that occurring in retinitis albuminurica.

From a summary of fifty-six cases (fifty-three from literature and three cases of his own), Morf has come to the conclusion that the aural changes due to nephritis may be divided into two main groups. The first group includes those cases where definite pathological processes in the ear—macroscopic, microscopic, or those revealed by functional examination—are found; the second group, those cases where no tissue changes can be made out to account for the functional disturbance. Middle-ear affections are present in three forms—inflammatory, inflammatory-hemorrhagic, and hemorrhagic.

Rosenstein was the first to suggest the possibility of an edema of the auditory tracts causing disturbances of hearing in nephritic patients. The author is inclined to regard the anesthesia of the auditory nerve and the tinnitus as symptoms of chronic uremia confirmed by the slight diminution of vision without ocular changes, which could be regarded as a uremic amblyopia. The usual auditory symptoms are subjective noises and a loss of hearing. Deafness may vary in degree and duration. The diagnosis of a nephritic affection of the ear is confirmed when, in addition to the nephritis, a direct connection of the latter with the aural disturbance is ascertained. Hemorrhages are always ominous, as they are usually soon followed by death. In purulent middle-ear disease a nephritic basis is a bad prognostic omen.

CAUSES AND TREATMENT OF BALDNESS.

A monograph upon this important subject by GESSNER has been extracted by Vogt (*La France Médicale et Paris Médical*, No. 22, 1899). Chronic seborrhea, he states, is not of such serious prognostic importance as is generally supposed, providing that timely treatment is employed. This prophylactic treatment consists mainly in the thorough application of soap; tincture of soap, with the addition of a little lavender, is especially recommended. This is rubbed in, after which the hair is washed with very hot water, which in turn is followed by cold water.

In case the skin is irritable or inflamed, or if there is eczema, the following ointment is used:

> Ichthyol, 0.5;
> Oxide of zinc,
> Starch powder, of each 2.5;
> Vaselin, 20.0.

On first beginning this treatment after baldness has commenced, many hairs will come out, but these are all irremediably lost and simply hang in their follicles. They should be removed to make room for others. This treatment is employed once or twice a

week, and to avoid the removal of too much fat, it is followed by an application of oil. After thoroughly cleansing the scalp, as a means of treating seborrhea, the following ointment should be used:

Precipitated sulphur, 1 to 2;
Pure resorcin, .5 to 1;
Salicylic acid, .25 to 1;
Tincture of benzoin, .5;
Vaselin, 20.

This ointment is applied directly to the scalp while the hair is being separated by a comb and is rubbed in. This treatment is usually applied in the evening, after which the head is covered by a nightcap. As a substitute for the ointment the following may be employed:

Pure resorcin, 3 to 6;
Hydrate of chloral,
Tannic acid, of each 0 to 10;
Tincture of benzoin, 2 to 4;
Castor oil, 6 to 10;
Alcohol, 200.

When baldness already exists the scalp must be vigorously stimulated; for instance, by applying every evening with a stiff brush an ointment containing five to ten per cent of chrysarobin; the scalp is then covered with a cap. At the same time faradization with a brush is practiced daily from five to ten minutes.

A CONTRIBUTION TO THE CRÉDÉ SILVER METHOD OF WOUND TREATMENT.

MEYER (*Southern Practitioner*, June, 1899; abstracted from the *Deutsche Militairärztliche Zeitschrift*, xxviii, No. 1, Berlin, January, 1899) states that the conclusions to be drawn from a series of reported cases may be stated as follows:

The course of a wound under the silver treatment is in general similar to that under the usual aseptic and antiseptic procedures. But silver possesses two important advantages. Rapid and reliable healing can be obtained without asepticism and with less rigorous antiseptic measures, and thus with simpler means and less trouble. Hence it is especially suitable for the sick-bays of ships, for use in the field, and for hospitals where the facilities for aseptic wound treatment are deficient, and suppurative affections and fresh wounds have to be handled in the same rooms or very hurriedly, or with inexperienced assistants. The author states that as far as his material permits him to judge, he has found Crédé's statements to be correct, and considers his method an efficacious and handy one.

The second advantage is the marked tendency of the method to effect the localization of inflammatory processes, as Crédé claims. In most cases the inflammation of the tissues surrounding the lesions subsided in the shortest time; and even when it progressed along the lymphatics a general infection was prevented.

Poisoning by the metal, or any special pain from its use, was not noticed; eczemas did not occur. The course of healing was noticeably shortened, and primary union took about the same time as with aseptic treatment. Necrotic tissue, when present, was cast off with a non-irritating suppuration before actual union began. The cases of general infections and of burns were too few to permit of a definite judgment; but a favorable reaction of the system to the inunctions was readily recognizable. Granulations under the citrate were almost always remarkable for their vivid color and vigorous growth.

The abundant serous secretion from the tissues was apparently a disadvantage in the cases where a primary union was desired; but whether this was dependent upon the citrate itself or upon other circumstances the author cannot decide.

The cost of the silver treatment Meyer did not find to exceed that of other methods. The citrate of silver is dearer than iodoform, but it is used in very much smaller quantity, as a very thinly dusted-on covering. The silver gauze is too expensive for universal use, but the author believes that common gauze with the citrate will do just as well. The price of the ointment is of no importance, on account of the small quantities that are employed.

The following is the method which Meyer now employs for ambulant patients, in view of the very reliable anti-inflammatory and localizing properties of the Crédé silver preparations: Injuries and inflammatory processes are treated with silver until all traces of inflammation have disappeared, and until healing by adhesion and granulation formation has begun in the depths of the wound. Cicatrization may be promoted by cauterizations and salves. Operative wounds in which primary union is not absolutely necessary are treated with silver if it does not appear that the abundant serous secretion interferes with the healing. For febrile symptoms he employs the salve by inunction; more rarely, he administers the silver internally.

In conclusion the author states that the silver treatment, while not equal to the asep-

tic treatment of wounds, is reliable where the latter cannot be carried out, as in non-aseptic hospital operating-rooms, dressing-rooms, in sick-bays, in private practice, and especially in the field. In the latter case the removal of the first dressing need not be a matter of such anxiety as it now is, even if it is soaked with secretion from the wound; for it is proven that the bacteria cannot develop in secretion impregnated with silver.

The author's experience leads him to place the fullest reliance upon the silver treatment of wounds, and he can recommend it in every respect in the most emphatic manner.

COMPLETE REMOVAL OF BLADDER, PROSTATE, SEMINAL VESICLES, ENTIRE URETHRA AND PENIS, SCROTUM AND ITS CONTENTS, FOR TUMOR OF THE BLADDER.

Dr. HOGGE (*Annales d. Mal. d. Órg. Génito-Urin*, p. 838, 1898) presented the specimen and history of the patient before the Soc. Méd., Chir. de Liège, December 2, 1897. The specimen consisted of all the organs enumerated in the title, and was an enormous epitheliomatous papilloma of two years' growth. Age of patient and time of operation not given.

The operation was performed January 3, by Professor Winiwarter, assisted by the author, and was done by several stages.

First Stage.—Lithotomy position; the bulb, membranous urethra, and prostate exposed and separated from rectum and the wound tamponed.

Second Stage.—Symphysis exposed; detachment of the suspensory ligament of the penis; insertions of the corpora cavernosa; symphyseotomy. Hemorrhage from the plexus of Santorini stopped by tamponade. Pubes separated by abduction of flexed thighs, which at this point caused rupture of bladder and hernia.

Third Stage.—Separation of peritoneum from bladder and of the prostate from rectum, with the fingers, the patient being placed in the Trendelenburg posture.

Fourth Stage.—Section of lateral attachments of bladder and urethra, ligature of ureters, patient being placed again in lithotomy position.

Fifth Stage.—Implantation of ureters into the anterolateral wall of the rectum, two catheters cut square being introduced into rectum into the ureters, and ureters sutured into rectum.

Sixth and Seventh Stages.—Closure of symphysis with silver wire, the abdominal and perineal wounds with silk sutures, and a Mikulicz tampon placed behind the pubes. Recovery of patient.

The catheters were removed from the rectum in forty-eight hours, and urine passed by rectum. By February 10 pains had disappeared; condition of patient excellent; gain in weight. There was left one fistula, from anterior wall of rectum, from which there was some escape of feces and urine. Patient went to stool only once a day; most of the urine passed by the fistula, and caused itching and discomfort in the anal region; otherwise good recovery.

ANESTHETIZATION OF THE SPINAL CORD BY COCAINE INJECTIONS.

BIER (quoted in *Münchener Medicinische Wochenschrift*, No. 21, 1899) has conducted a remarkable research, having for its object the production of anesthesia in large sections of the body by means of cocainizing sections of the spinal cord. After having employed Quincke lumbar puncture, a very small quantity of cocaine was injected into the subdural space—from one-twelfth to one-sixth of a grain. Following this injection operations such as resection of the ankle and knee-joints, sequestrotomy of the tibia, resection of the tuber ischii, and resection in complicated fractures of the femur could be employed without the patient feeling the faintest sensation of pain. For one or two days after these injections patients complain of cephalalgia, vomiting, and general misery.

With a scientific ardor truly Teutonic, Bier practiced these injections upon himself and upon one of his colleagues, Hildebrand by name. In five to eight minutes after the injection the legs were entirely anesthetic; under one-twelfth of a grain of cocaine this anesthesia lasted forty-five minutes; it then gradually passed away. The after-effects were extremely severe in both cases, Bier being kept to his bed for several days.

SURGERY OF THE HEART.

PODREZ (*Revue de Chirurgie*, No. 5, 1899) quotes Jamain statistics to the effect that of 121 cases of wound of the heart and of the large blood-vessels, but a small number resulted in immediate death. Fischer finds, in a study of 452 cases, that the right ventricle is most frequently wounded; he gives the

mortality of non-penetrating wounds of the heart at ninety per cent. Ollier and Sanson have reported twenty-nine cases of penetrating wounds of the heart in which the patients survived more than two days.

Wounds of the auricles and the coronary arteries are more rapidly fatal than wounds of the ventricles; the disposition of the muscular fibers contributes toward the arrest of hemorrhage, so that the wound possibly can close itself completely, and thus entirely stop the loss of blood.

Jamain found in thirty-five wounds of the right ventricle that the patients lived from four hours to twenty-five days; that of a number of lesions of the left ventricle, two patients lived a half-hour, one six months; that in five cases in which both ventricles were wounded the period of life varied from an hour to nine months; that in seven cases in which the right auricle was wounded the patients lived from seven hours to twenty days; of two patients wounded in the left auricle the period of life was one and two days respectively.

Syncope often plays an important part in arresting hemorrhage, but it may itself be fatal, and on reaction the hemorrhage is likely to recur.

The situation of the external opening is of great importance in making a diagnosis of wound of the heart. Fainting is a very common symptom, together with shock, free bleeding, embarrassed respiration, marked irregularity in the pulse, and augmentation of cardiac dulness. To these symptoms are often added trembling, convulsions, vomiting, and even temporary hemiplegia. Shock is a secondary effect of heart wound, and should not be treated until the opening in the heart itself is closed. Hemorrhage is much more likely to be free from wound of the large vessels and of the auricles and of wounds of the ventricles. This bleeding is not the principal cause of death.

Wounds of the coronary arteries are always fatal, and usually immediately so after traumatism; the cause of death is not bleeding, but cardiac arrest because of insufficient supply of blood to the heart muscle.

Respiratory disturbances are usually early symptoms of heart wound, and there is a feeling of suffocation which may go on to apnea. The heart itself becomes rapid, feeble, and irregular, and often there is heard on auscultation a blowing sound, not unlike that of aneurism. This cardiac irregularity may persist for a long time; indeed, there is reason to believe that complete recovery from it is never accomplished.

The condition of the pericardium, especially the amount of distention in it, is extremely important in its influence upon the activity of the heart. When this serous pouch is distended the heart acts very badly, especially if the distention is rapid in development. The prognosis of wounds of the pericardium is extremely grave, according to Erichsen, because of the disturbance in the heart's action, which may result in death a long time after the wound.

When there has been inflicted a penetrating wound of the heart a spontaneous arrest of hemorrhage cannot take place, unless the opening is a very small one of the left ventricle. Such wounds have at times closed spontaneously, and apparently permanently, by a dense cicatricial tissue. Hence it follows that whenever a penetrating wound of the pericardium is followed by the symptoms of bleeding or compression of the heart, a large incision should be made in the cardiac region. After having made a provisional resection of the upper part of the thorax and explored the heart and the cavity of the pericardium, the wound is either sutured or tamponed, according to its nature.

It often happens that death follows so quickly that intervention is impossible. Even when this is not the case, the technical difficulties of the operation are considerable. It has been abundantly demonstrated that there is an extreme inconstancy in the limits of the region within which the surgeon is enabled to incise the thorax and the pericardium without wounding the pleura. A direct penetration of the pericardium is only possible to the left of the lower extremity of the sternum, and about the position of the articulations of the sternum with the fifth, sixth, and seventh costal cartilages, not far from the point where the cartilages become continuous with the bony ribs. The opening confined to this region does not give sufficient room for intrapericardial manipulations. The only satisfactory method consists in a large opening of the region by a flap incision; the best flap is that which includes nearly all the left half of the lower extremity of the sternum, and the third, fourth, fifth, and sixth costal cartilages; the latter may be sectioned at the position of the costocartilaginous articulation.

The incision begins an inch and a half from the left border of the sternum and the second intercostal space, is carried to the

midsternal line, then almost vertically downward, following the middle line of this bone as far as the seventh sternocostal articulation. At this point it curves outward, following obliquely the seventh cartilage. After having penetrated into the mediastinal cavity at the level of the seventh costosternal articulation, Volkmann's resection scissors or other convenient cutting instrument is employed, cutting directly upward through the sternum in the line of the skin incision to the second intercostal space; here the bone is cut transversely to the left. By care the periosteum of the lower surface of the sternum may be separated before the bone is divided, thus avoiding wounding the pleura, especially when before lifting up the flap the pleural cul-de-sac is stripped outward. Even though the pleura is opened this does not constitute a serious complication.

The author cites a case of cardiac surgery. A girl, sixteen years old, was shot in the stomach and chest with a revolver; this was followed by deep syncope, from which recovery was very gradual. Two hours later she was brought to the hospital exhibiting profound shock; the pulse was scarcely perceptible, respiration was irregular and superficial, the heart-beat could not be heard. Percussion showed increased dulness to the right. The patient complained principally of thoracic pain and dyspnea. The wound was placed in the region of the fifth costosternal articulation; it passed obliquely upward to the left, and was penetrating. The patient showed some reaction after exploration of the wound, but two days later the heart dulness increased, and the other symptoms of hemorrhage into the pericardium appeared. The pulse diminished in intensity, and a sense of suffocation and nervous depression developed.

The patient was etherized and a grooved director was introduced to a depth of two inches, evacuating a turbid and yellowish fluid; the end of the sound was in direct contact with the heart. The wound track was enlarged and drained. About half a glassful of liquid was evacuated. As the pericardium was relieved of pressure the general condition improved.

The next day the symptoms recurred with increasing violence. A flap was raised, and the entire heart was exposed, together with the large vessels. The pericardium was irrigated with boric acid solution and the wound was looked for. After having stripped off some false membrane a longitudinal whitish opening was found in the surface of the right ventricle, about an inch from the apex of the heart. The introduction of a grooved director showed that this opening was closed rather by muscular fibers than by cicatricial tissue. By means of a needle the ventricle was explored, in the effort to find the foreign body. More than ten punctures were made, but the bullet could not be found. A manual examination of the pericardium was then made, and finally the heart was seized between the two hands, an effort being made to detect the foreign body by manual palpation. Neither the punctures of the needle nor the lifting of the heart from the pericardial cavity and its firm compression between the two hands arrested its movement. This organ continued to contract irregularly but sufficiently. For a week the pericardial cavity secreted an abundant purulent liquid. About the end of the third week the secretion had almost entirely disappeared. The packing was then replaced by a drain.

Later, by means of the fluoroscope, the foreign body was seen above the upper border of the fifth rib, an inch from the left border of the sternum, and about the same distance from the left nipple. This foreign body moved in correspondence with the rhythmic contractions of the heart, showing that it was placed within this organ. The patient five months after operation was well, and was still carrying the foreign body in the heart substance.

FOREIGN BODIES IN THE PHARYNX AND ESOPHAGUS.

JONES (*The Lancet*, May 6, 1899) states that from a study of his own cases of esophagotomy and a perusal of general results, he would submit: (1) That bodies which have lain for some time and given rise to symptoms of obstruction, irritation, or dyspnea should be operated upon without delay; (2) that forcible attempts at extraction by the mouth are to be condemned; (3) that sharp or irregular impacted bodies specially demand esophagotomy; (4) that in certain cases gastrotomy is indicated, and in some a combination of gastrotomy and esophagotomy; (5) that where the wound in the esophagus is jagged or its walls inflamed no stitches should be used; (6) that the routine practice where the esophageal wound is clean cut is to stitch it up with a continuous suture, care being taken as in the case of the intestine not to pierce the mucous coat; (7) that

only in very exceptional cases where no danger of suppuration and infection exists should the external wound be closed; and (8) that liquid food may be given by the mouth in about twenty-four hours after operation.

THE USE OF HOT STEAM IN DERMATOLOGY.

LIEBERSOHN (quoted in *Münchener Medicinische Wochenschrift*, No. 21, 1899) has obtained excellent results by the use of hot steam long continued in a number of chronic skin diseases. He states this measure is specially indicated in circumscribed cases of chronic eczema, particularly of the face, and in suppurative forms; in acne, in non-parasitic sycosis, in leg ulcer, rosacea, lupus vulgaris, venereal ulcers, and erythematous lupus. It is contraindicated in acute forms of eczema, in the diffused and varicose manifestations of this disease, in psoriasis, favus, and herpes tonsurans.

Of twenty-two cases of chronic eczema thus treated only one was uncured. The results were especially brilliant in sycosis, leg ulcer, and acne. All such cases thus treated were cured.

A CASE OF ACUTE CARCINOMA OF THE BREAST.

J. B. DAVEY (*Treatment*, May 25, 1899; quoted from *Middlesex Hospital Journal*, February, 1899) reports the following unusual case: The patient, a married woman aged twenty-nine, was admitted, under Mr. Pearce Gould, on October 8, 1898, with the following history: Ten months ago she gave birth to her fourth child, which she continued to suckle until a week ago. Seven weeks ago the baby refused to take the left breast, although at that time the patient did not notice anything the matter with it. Shortly after that, however, the patient found that her left breast was "hard and lumpy." She continued to suckle the baby at the right breast until a week ago, when it was weaned. The left breast got much larger after the baby refused it, but recently it had not increased. For three weeks the skin over the left breast had been reddened, and during this time she had suffered much pain in the lower part of her spine. The patient stated that during the last eight weeks she had lost much flesh. There had been no discharge from the nipple. Since her confinement the patient had not menstruated.

On examination the left breast was seen to be prominent, especially internal to and slightly above the nipple; the skin covering it was discolored and blotchy, varying in color from red to brown, and indented by numerous small dimples. The nipple was retracted; there was no discharge from it. The whole breast was felt to be converted into a firm mass, and around it there were numerous small, hard, bright crimson nodules in the skin, and some also in the subcutaneous tissue. A group of these passed backwards almost to the posterior fold of the axilla; there were several on the upper and inner aspect of the breast. The skin was firmly bound down to the swelling, which was partly fixed to the pectoral muscle. The swelling was fairly well defined and not tender, except on very firm pressure. A chain of enlarged hard glands was traceable from the breast to the apex of the axilla. No glands were felt above the clavicle.

The right breast was large and its nipple well formed. In its upper part several very hard, small, rounded nodules were felt; these were not adherent to the skin, and no enlarged glands could be felt in the right axilla.

From the date of admission to the hospital to the date of her death, which took place on November 4, barely four weeks later, the condition of the patient became rapidly worse.

The condition revealed by the post-mortem examination was a remarkable one. Although the disease was of only eleven weeks' known duration, the secondary growths were exceedingly numerous and somewhat unusual in their distribution. They clearly explained the symptoms exhibited during life. The lungs and pleura have been found to be most frequently affected; but in the case under consideration, although both pleuræ were extensively affected, no growth was found in the substance of the lung itself. The liver is most frequently affected after the lungs and pleura, and in this case was thickly studded with cancerous nodules. Next to the liver, the kidneys, bronchial glands, opposite breast, peritoneum and mesenteric glands, heart, and pericardium are most often affected; but in this case all these organs, excepting the opposite breast, were found to be free from cancerous growth.

Mr. Gould recently removed both breasts simultaneously from a patient aged forty-eight, and both breasts were the seat of cancerous growth. A tumor had first been noticed in the left breast four and a half

years previous to operation. The patient made a good recovery. In the case under consideration the second breast was evidently early affected, and it is interesting to note that although on admission to the hospital the second breast was evidently affected, the child had taken that breast until a week before, when it was weaned, so that the disease had probably reached considerable development in the left breast before the child refused to take it.

ABLATION OF THE GASSERIAN GANGLION.

COELHE (*Revue de Chirurgie*, No. 5, 1899) operated upon a man who, for the relief of neuralgia affecting all three branches of the trigeminal nerve, had been subjected to tooth extraction, sea baths, electricity, cauterization, and all the known methods of conservative treatment. In 1894 a surgeon divided the infra-orbital nerve; the next year another surgeon divided the superior maxillary. These operations were futile.

In 1898 Coelhe resected the Gasserian ganglion, together with the protuberance. The eye was first occluded by sutures, after disinfection of the conjunctival cul-de-sac; a curved incision was then made, beginning behind, a little below the external orbital angle, carried upward and backward for two inches, then curved downward to a point just in front of the tragus. This incision was carried down to the bone, the divided blood-vessels being ligated; the zygoma was mobilized by two incisions in the line of the skin cut; this flap was turned downward, together with the periosteum, which was stripped off the skull by means of trephine and forceps. The opening of the skull was made about an inch and a half in its anteroposterior dimension, an inch in vertical measurement. The dura mater was then separated by a strong polished elevator about an inch and a half long and an inch wide, slightly angled at its end. By means of this instrument the middle meningeal artery and the superior and inferior maxillary nerves were exposed. In separating adhesions there was a free hemorrhage, which was only checked by packing. The operation lasted forty-five minutes.

Three days later the packing was removed, and the superior and inferior maxillary nerves were divided by a blunt-ended tenotome quite near the ganglion. For the isolation of the ganglion a spatula was used about three fifths of an inch long and one-fifth of an inch wide, with a slight anteroposterior curvature; it was carried backward and upward, avoiding the cavernous sinus, and passing above the ganglion; when the latter was freed it was seized with hemostatic forceps and torn away by a movement of traction. The separation of the upper surface of the ganglion has often been considered impracticable; the author found, however, that it was extremely easy. Seizing successively each of the maxillary nerves in the cranial cavity, they were drawn out and cut as short as possible. This second operation occupied twenty minutes.

A microscopic examination of the ganglion showed that it was the seat of marked degeneration. Five days after operation the eye was opened and found to be normal. Next day the cornea was slightly opaque. By lavage a thin superficial layer was detached, leaving an absolutely transparent surface. Continuing with compresses and aseptic treatment, the opacity recurred. At the end of a month it was, however, entirely clear, with the exception of one spot. It was found when the eyelids were kept closed that the cornea remained clear; when the eyelids were allowed to remain open, however, because of the insensibility resulting from operation, the cornea was not protected from mechanical irritation. The neuralgia was entirely cured.

Coelhe states that the ablation of the Gasserian ganglion should be the measure last attempted in the treatment of trigeminal neuralgia, since it is dangerous, principally because of the possibility of wounding the internal carotid artery. Lesions of the cavernous sinus and of the middle meningeal, though not as dangerous, since in general the bleeding can be controlled, weaken the patient and prolong or adjourn the operation.

Cerebral compression, shock, and secondary infection have been causes of death. The operation should consist in tearing away the trigeminal at the protuberance, as a means of avoiding recurrence, since thus it is certain that the entire ganglion is removed, whilst the same certainty does not exist when the isolated extirpation of the ganglion is attempted.

PRACTICAL POINTS IN THE MANAGEMENT OF SKIN DISEASES IN CHILDREN.

BULKLEY (*New England Medical Monthly and the Prescription*, May, 1899) says it is well always to bear in mind the very abundant nerve supply of the skin and the very

tender and delicate character of the skin in early life, as indeed at every age. Zinc ointment has been a boon to eczema, because it affords a simple and non-irritating dressing in most cases, and the profession has done well to employ it so largely. But it is a relatively inert and ineffective remedy when used alone, although with certain additions it often proves of the greatest service. Ichthyol, two to ten per cent, and salicylic acid powdered, two to five per cent, in zinc ointment, are often most valuable in these cases. The old tar and zinc ointment is as follows:

℞ Unguent. picis, ʒ ij;
Zinci oxidi, ʒ j;
Unguent. aquæ rosæ, ʒ vj.

It often affords the very best dressing possible, and, if correctly and faithfully applied, remains still one of the best applications for eczema.

A word in regard to the method of making applications of ointment, especially to children, for we may be sure that they will not be employed exactly in the right manner, unless special directions are given. It is better to expect that patients and attendants know nothing rightly in regard to the details of treatment, and therefore to give very full and explicit directions in regard to methods and mode of treatment.

To be effective an ointment should be kept in very close and constant contact with the part, and the common method of smearing the surface and then placing linen or other covering upon it seldom suffices for the proper treatment of eczematous surfaces, where the disease is at all severe. The author states he has long advised that the ointment be thickly spread upon the woolly side of lint, cut to fit the diseased surface, and that it then be bound firmly on with gauze bandage. It is surprising to see how much better a suitable ointment works when thus correctly applied than when simply rubbed on the surface.

On the face it is not often desirable to thus bind it on, but it should be reapplied as often as it is at all disturbed, even many times daily.

The author mentions a device for restraining an infant from scratching and tearing itself, which he does not think is as widely known and employed as it should be. This consists in the use of a small pillow-case, with an opening at the closed end, sufficient to admit the head being passed through it. This is drawn down upon the baby, and secured from being raised by means of a safety-pin between the legs. A few more safety-pins suffice to secure the arms in place, at the sides, thus making it impossible for the child to reach its face, or even the other hand. It may seem a little barbarous in description, but after employing this method in suitable cases for many years he has found it to be of the greatest service; the little patient becomes accustomed to it very readily, and does not seem to dislike it more than many of the restraints of childhood; many parents who have used it heartily approve of the method.

In regard to the treatment of infantile syphilis little need be said, for the simple means used years ago remains to-day the best method of combating the disease; and that is by means of mercurial ointment, diluted one-half with cold cream, rubbed into the body and kept applied on the flannel band. There is little danger of the child absorbing too much; a half-drachm may be used night and morning. Iron and appropriate tonics are required later in the disease, and in the very late forms the syrup of the iodide of iron, even in heroic doses, proves most serviceable.

The question as to the cure of ringworm of the scalp is always a serious one; that is, just when the patient is perfectly well and not liable to communicate it to other children. This is often a very difficult question to decide, even to one familiar with the disease.

Long after the diseased patch has reproduced good hair of some length there may be small stubs of broken and diseased hairs, or worse still minute black spots, representing the ends of hairs broken off at the mouth of the follicle; these are yet filled with the spores of the vegetable parasite, and are capable not only of autoinoculation and the production of active disease in the patient, but also of inoculating others.

Cases should never, therefore, be pronounced cured and be allowed to mingle freely with other children until the physician is assured from personal observation that such diseased remnants of hairs are not present. Now this is often a very difficult matter to determine, and the proper examination of the scalp may take many minutes, some writers say half an hour. The hair should be carefully turned back with the blade of a forceps, and all the surface searched with the aid of a lens. It is often necessary to leave a child without treatment for a while, in order that this may be properly done; then,

if there are any suspicious hairs or stumps, these should be extracted and examined microscopically. A case should really not be discharged as cured unless a second or even a third such examination has failed to reveal the presence of the parasite.

Acute urticaria, nettle-rash, or hives, when it bursts out, with its characteristic wheals, from some indiscretion in diet, is easily recognized and commonly yields readily to appropriate treatment. But in certain cases there is only the indistinct history of itching, with restlessness at night, and the wheals may be few and far between, and the condition may often be prolonged for a very considerable period and prove very rebellious to treatment. It must never be forgotten that articles of food, such as oatmeal, which are perfectly healthful for many or most persons, will, from an idiosyncrasy, prove very irritating to certain individuals.

The local treatment which is commonly so promptly effective in impetigo contagiosa consists simply in the official white precipitate ointment, diluted with three times the amount of cold cream. It is often surprising how rapidly even quite an extensive eruption of this kind will disappear under the thorough and continuous application of this ointment.

ARTERIOVENOUS ANEURISM OF THE FEMORAL VESSELS SUCCESSFULLY TREATED BY EXTIRPATION OF THE SAC.

MURRAY (*The Lancet*, June 3, 1899) treated by radical operation a case of arteriovenous aneurism of the femoral vessels of eight years' standing. The patient wounded himself with a penknife and bled profusely. Under a compress this wound healed, but distinct pulsation was noted. A tumor formed, which gradually increased in size. Yet, in spite of this, the man was extremely active, running races and riding long distances on his bicycle. Shortly before operation the tumor grew rapidly, and because of increased pulsation and thrill in the limb sleep was interfered with; moreover, there was much aching and numbness in the leg. The tumor was as large as the fist, lying just under the skin, covering the site of Hunter's canal. One tourniquet was placed round the leg, immediately below the knee; the second one round the thigh as high up as possible. An incision eight inches long was then made over the course of the femoral vessels, the sac exposed, dissected free of the muscles to which it was adherent, and the artery and vein, both much dilated but otherwise apparently healthy, were tied three-fourths of an inch above their communication with the sac with catgut ligatures. About one-fourth of an inch below the point of communication the artery was smaller than natural, the vein larger. They were both secured with catgut ligatures. The sac was then dissected out and was, together with the attached portions of the artery and the vein, removed. The recovery was uneventful.

Dr. Curtis has collected details of twenty cases of varicose aneurism treated by extirpation of the sac, with nineteen cures and only one death, the latter due to sepsis. Among these twenty cases there were six femoral, three popliteal, and three axillary varicose aneurisms, all of which were permanently cured.

Keen, because of a very rapid advancing varicose aneurism in the case of a boy, aged fifteen years, tied the common carotid and internal jugular vein above and below, and attempted to extirpate the sac. Though the latter part of this operation was not practicable, the boy was cured. Keen agrees with Curtis that cases of arteriovenous aneurism of the common carotid and internal jugular seldom require surgical treatment.

Page has had under observation for eight years a patient who has an aneurismal varix of the common carotid and internal jugular vein, but no aneurism has developed, though the vein is very much dilated.

ANEURISM OF THE SUBCLAVIAN ARTERY TREATED BY PROXIMAL LIGATION, FOLLOWED AFTER AN INTERVAL BY REMOVAL OF THE SAC.

ALLINGHAM (*The Lancet*, June 3, 1899) had brought to him a sailor, twenty-five years old, who for twelve months had been suffering from a swelling above the right clavicle, which gradually increased in size. This was accompanied by pain, at first intermittent, lately continuous, situated in the right upper extremity. This tumor exhibited all the characteristics of aneurism. A V-shaped incision was made, one arm of which ran down the anterior border of the sternomastoid muscle, the other arm along the clavicle; the sternomastoid muscle was divided; the first part of the subclavian artery was exposed, and a kangaroo tendon passed round the vessel immediately external to the origin of the

vertebral artery and just at the inner border of the scalenus anticus. Pulsation persisted, and the aneurism continued to grow. Thirty-eight days after the first operation the whole length of the clavicle was exposed by a transverse incision; a further vertical incision was made to give added room. The greater part of the clavicle was resected, leaving only the two extremities. Careful dissection revealed the aneurism springing from the upper and anterior aspect of the vessel in its third portion. The tissues surrounding the aneurism were dissected off the sac. The axillary artery was ligatured with silk and divided on the distal side of the tumor. This procedure allowed the aneurism to be freed from the first rib and turned upwards, and so to bring into view the second part of the subclavian artery on the proximal side of the aneurism. This part of the vein was ligatured with silk and the aneurism was cut away. The subclavian vein was torn, but this opening was closed by lateral ligature. The operation occupied two hours. The axillary artery, as far as it was exposed in the wound, was found to be obliterated. A month later pulsation was present in the brachial artery and also in the radial at the wrist.

FIBROUS STRICTURE OF THE RECTUM.

HORROCKS (*British Medical Journal*, June 3, 1899) states that fibrous stricture of the rectum, unaccompanied by ulceration, is not a common affection, and is difficult to treat satisfactorily. It occurs more commonly in women than in men. The situation of the stricture especially considered is from one to two inches from the anal margin, where the levator ani slings the rectum. The stricture is usually a narrow one, but in some cases the strictured part is an inch or more in depth. Such strictures have been attributed to the fibrous thickening in the sheath of the levator ani, caused by long-continued reflex spasm of that muscle. The originating irritation is usually some piles or an ulcer about the anus. Dr. Reider attributes it to syphilitic infection of the pudendum, which sets up endophlebitis and periphlebitis of the rectal veins, which carry away the blood from the pudendum.

The usual treatment by passing bougies is very painful, and affords only temporary relief. Forcible dilatation is a dangerous and unscientific method. It is dangerous because the stricture yields at its weakest part, which may lead to laceration and infection of the peritoneum. It is unscientific, as the tear when healed leaves the patient in much the same condition as before the operation. The method here advocated is so simple, and in two cases was so satisfactory, that there seems no reason why it should not come into general use. It consists of a vertical division at the part most removed from the peritoneum. The vertical is converted into a transverse slit, and the margins stitched together. To do this the stricture must be within reach, and it is an advantage if the mucous membrane above the strictured part is loose and healthy.

NEPHROTOMY IN A CASE OF SURGICAL ANURIA.

NÉLATON (*La France Médicale et Paris Médical*, No. 22, 1899) performed a celiotomy for the relief of what was supposed to be a cyst of the ovary. This cyst was, however, found to be postperitoneal, and was in reality a hydronephrosis. The kidney substance was practically completely atrophied; therefore the tumor was removed and the abdomen closed. On the eighth day the patient suffered with severe pains in the right flank; it was the left kidney which had been taken away. The attack was so like kidney colic that morphine was given. On the evening of that day only a few drops of blood-stained urine was passed. Ureteral catheterization was practiced, but without effect. Therefore, as the patient had suffered from anuria for forty-eight hours, a palliative nephrotomy was practiced. This showed nothing abnormal. A tube was placed in the pelvis of the kidney, and in a few hours the urine began to flow through it. Seven days later some of the urine appeared in the bladder. For several weeks the secretion was extremely irregular, varying from an ounce to four pints a day. After that it became fully reestablished.

SUTURE OF THE HEART.

WEBER (*Centralblatt für Chirurgie*, No. 27, 1899), on the basis of an experimental investigation, states that before a heart wound can be quickly and safely closed by suture, the organ must be exposed by the freest possible parietal opening. Compression of the heart, in order to make the operation a bloodless one, is not practicable in dogs because it often causes death. It is worthy of note that of ten dogs the hearts of which had been wounded after the organs were ex-

posed, three lived; of nine dogs operated on for heart wounds inflicted through the parietes, two lived.

The incision suggested by Weber, as the one most suited to allow of free access to the heart, is one beginning to the left of the sternum, just above the insertion of the fourth costal cartilage. The cut is carried in the form of an ellipse, through the skin and muscle down to the bone, transversely across the sternum to the upper border of the fourth left costal cartilage, two fingers' breadth beyond the left sternal border, and downward over the fourth, fifth, sixth, and seventh ribs; finally inward to the base of the xiphoid process, terminating at the right sternal border. The sternum is sawn through in the line of this incision; then after cutting the intercostal muscles in the third interspace, taking care to avoid the internal mammary artery, the fourth, fifth, sixth, and seventh costal cartilages are cut through, and the flap thus formed is folded over toward the right side, the base of the xiphoid process being cut through before this is accomplished.

Riedel, commenting upon this communication, reported that a patient operated upon by him for heart wound two years before was still living and well. He stated that in case of pericardial effusion the heart is not forced away from the chest wall, as is commonly taught, but lies close to it.

Eichel contradicts this last assertion on the basis of a case which came under his own care. The patient was shot with a pistol ball and developed a pericarditis, which made operation necessary. The sternum was resected from the fourth, fifth, and sixth ribs, together with portions of the rib cartilages. Over a pint of pus was evacuated from the pericardial sac before the heart could be felt by the finger.

STERILIZATION OF THE SKIN.

SENGER (*Centralblatt für Chirurgie*, No. 27, 1899), investigating the value of alcohol as a disinfectant for the hands, finds that absolute alcohol will not destroy staphylococcus aureus in twenty minutes. The disinfecting power of this agent increases, however, as this drug is diluted down to fifty or forty per cent. After this the germicidal effect of the drug rapidly disappears. As a result of his experience, he states that a fifty- or forty-per-cent solution of alcohol is a sure bactericide for the staphylococcus. If a mixture of alcohol and carbolic acid is employed the result is less satisfactory than when alcohol alone is used, since a chemical combination results, with the formation of a kind of ether. A mixture of five-per-cent carbolic solution with ten-, twenty-, or thirty-per-cent absolutely pure alcohol is entirely inefficacious.

For three years Senger has employed a method of disinfection of the skin based upon his chemical studies. Two agents were employed which had the power of destroying the cocci, and which entered into a chemical combination which in itself is bactericidal. He employs first a two- and five-per-cent warm solution of hydrochloric acid for two minutes, then a half- to two-per-cent warm solution of potassium permanganate for one minute. The resultant brown discoloration of the skin may be removed in a few seconds by sulphurous acid. The action of the hydrochloric acid on the potassium permanganate causes among other things the development of free chlorine. Oxygen and sulphuric acid are also formed.

According to Krönig and Paul, a one-per-cent solution of hydrochloric acid with one-per-cent solution of potassium permanganate acts far more powerfully upon anthrax bacilli than a five-per-cent solution of sublimate. After bacteriological investigation the author has proven that a one-per-cent solution of hydrochloric acid at about the body temperature is an extremely powerful bactericide. Sulphurous acid and potassium permanganate are weaker. By means of this method he has been enabled to procure sterility of the hands in seventy-eight per cent of the cases. He commends this method as the safest and the quickest for thoroughly disinfecting the hands and the skin when infected with decomposed substances.

FRACTURE OF THE PATELLA.

PRICHARD (*Bristol Medico-Chirurgical Journal*, June, 1899) reports two cases of fracture of the patella treated by wiring, and exhibited skiagrams showing the admirable results which can be obtained by this method. He thus summarizes the various methods of treatment for this injury:

First, the plan without operation. This, the old one, consists of rest with the application of splint and bandages. There are various excellent ways of drawing the fragments together, and perhaps in almost the majority of the cases this method is the one to be recommended, and it often gives fair results; but the best result that can be hoped for is a

ligamentous union with more or less impairment of extension, and the probability is that the individual will never be able to run or climb a ladder.

Secondly, subcutaneous silk ligature, by surrounding the kneecap either laterally or vertically by a stout silk cord. In the latter case the ligature is passed by means of a strong needle right into the joint and is left in, resting on the condyles. The author states that he has had no personal experience of this plan, but that he does not imagine it would be successful in many cases when the tilting of the fragments and the in-dipping of the fibrous covering are considered. The tilting is present in most cases and is sometimes remarkable, as in one case which was wired, where the fractured surface of the upper fragment was directly forwards. The dipping in of the fibrous covering has been present and has given some trouble in all cases the author has seen operated on.

Thirdly, the recently recommended method of massage of the thigh muscles and passive movement of the knee from the commencement of the case. This is advocated by those who think that the cause of bad results in cases that have not been operated on is to some extent atrophy of the quadriceps, and contraction of the fasciæ from want of use. Prichard has nothing to say about this treatment from his own experience. He believes that it can never result in bony union if the fragments have been separated, and a ligamentous union can never give the support that a bony one gives.

Fourthly, the method of an open operation and sewing up the fibrous covering and split lateral expansion of the quadriceps by buried sutures. This has, to the author's mind, little to recommend it in comparison with wiring, as the operation would be as severe, and the result not so secure.

Fifthly, wiring. It is usual to make a longitudinal incision and then carefully to scrape away all material between the fragments, to bore and pass the wire, then to irrigate the joint, washing out all clot, then tighten the wire. Prichard always puts a drainage-tube into the joint on the outer side, and removes it in twenty-four hours. One can generally rely upon a single stout silver wire. A good plan, when the lower fragment is small, is to pass two wires through one hole in the lower, and separate them to pass through two holes in the upper.

Wiring the patella should not be done too soon after the accident; the joint should be allowed at least forty-eight hours to begin to recover from the immediate effect of the injury.

The operation should not be undertaken by any one who has not complete confidence in his antiseptics and in his carpentering skill, nor in cases where the general health is not good; but as far as the author's experience and ideas go, it is the right thing to recommend in young adults who have to use their legs in earning their living, or who wish to be able to indulge in a fair amount of active exercise.

HEMORRHAGE FOLLOWING ADENOID OPERATIONS.

MARTIN (*The Laryngoscope*, July, 1899) reports three cases of hemorrhage following adenoid operations. He had been operating on these growths seven years before he came to a complete realization of what unpleasant consequences could ensue.

The first case, sixteen years old, had been subjected to cauterization of the turbinates for several months before he came under Martin's charge. Some pharyngeal adenoids were removed with the Gottstein knife under cocaine anesthesia. There was free bleeding for a few moments, but it speedily ceased. The patient was placed in the reclining position for perhaps an hour and a half without further manifestations of hemorrhage. When he came to rise the blood gushed freely from his nostrils and mouth. The recumbent position was followed by immediate cessation of the bleeding. After fifteen minutes' waiting the patient was allowed to sit up, and an effort was made to examine his throat with a mirror, but the bleeding started afresh and the patient fainted. After some trouble a plug was inserted into the posterior nares. This was left in place for thirty-six hours. On removal there was no recurrence. About one pint of blood was lost.

The second case was seven years old. Pharyngeal adenoids were removed with almost no bleeding. Two days later there was sufficient hemorrhage to alarm the family; but on inspecting the patient it was found not alarming in any way. Two days following this there was another slight hemorrhage. On the following day, on attempting to examine the nose, the bleeding recurred. As it ceased spontaneously, no effort was made to plug. Later in the same day there was profuse bleeding, amounting to about three-quarters of a pint. The nostril was then plugged posteriorly and

anteriorly, and the child recovered without recurrence.

The third case was six years old. She was operated on for recurrent adenoids. Six days later there was slight hemorrhage from the nose. On the ninth day after the operation there was a very profuse bleeding, amounting to more than half a pint. This patient recovered without plugging.

Reviews.

AN INTRODUCTION TO DERMATOLOGY. By Norman Walker, M.D. With Illustrations in Colored Plates and in Black and White.
Bristol: John Wright & Co, 1899.

The appearance of still another book upon diseases of the skin is fair evidence of the fact that authors and publishers believe that the profession are willing to buy additional volumes dealing with this topic, in order if possible to gain more information concerning a class of ailments which comes before many practitioners.

The present volume is practically a reproduction of the lectures which Dr. Walker has given to his students in Edinburgh. There are several points about it which strike us favorably from the standpoint of the general practitioner: First, that the colored plates, while not particularly handsome, show the diseases they represent in a very lifelike way; secondly, that many prescriptions are introduced which have been found useful by the author in his practice; and thirdly, that the many illustrations in black and white are also excellent.

The frontispiece, or colored plate, seems to us an instance of the author putting his worst foot foremost, as it by no means shows the conditions it is designed to illustrate as clearly as some others which are contained in the volume.

As a brief summary of diseases of the skin, this book can be cordially recommended to the profession; indeed, considering its size and the character of the plates, it is probably the most useful book for its cost that can be obtained.

PULMONARY TUBERCULOSIS. Its Modern Prophylaxis and its Treatment in Special Institutions and at Home. The Alvarenga Prize Essay of the College of Physicians of Philadelphia for 1898. Revised and Enlarged. By S. A. Knopf, M.D. Illustrated. Price, $3.00.
Philadelphia: P. Blakiston's Son & Co., 1899.

Four parties may be congratulated upon the publication of this essay, which is a large octavo volume of nearly 350 pages. The first one who deserves congratulation is the author; the second, the committee of the College of Physicians who awarded the prize to so deserving an effort; the third party benefited is the profession in general; and last, but not least, have patients suffering from this disease cause for congratulation in its publication, for intelligent physicians who read it will have a better idea of the condition which tney are called upon to treat by climatic and other measures than they could possess before it had been read, unless they have traveled widely and visited many of the great sanitaria for tuberculosis. The author brings to his work enthusiasm and experience. On this side of the Atlantic he has had opportunities to study disease of the lungs, and at one time he was assistant to Professor Dettweiler, of the Falkenstein Sanitarium, in Germany.

The book opens with a dedication to the hygienists, statesmen, and philanthropists, and the many noble men and women inside and outside of the medical profession, who labor and have labored, on behalf of tuberculous invalids, and who have demonstrated that consumption is a preventable and curable disease. In the latter part of this dedication it seems to us that the author has struck the key-note which it would be well for all physicians to remember. In the chapters which follow he deals with certain interesting data in the history of tuberculosis, then takes up its mortality, and then the particulars of its curability. In the succeeding chapters he deals with its communicability, the various prophylactic rules and laws which should be instituted for its preventive treatment, and then passes on to a consideration of the more important sanitaria of Europe, United States, and Canada for the cure of tubercular patients. After discussing these he considers aerotherapeutics, rest cure, and various remedial measures other than drugs for the treatment of this class of patients, and deals exhaustively with the various complications of tuberculosis.

There are few persons in the profession who will not be interested in the perusal of the pages of this book. It is a most excellent work.

PYORRHŒA ALVEOLARIS, AND ITS RELATIONS TO GENERAL MEDICINE. By John Fitzgerald, L.D.S.
London: The Medical Publishing Company, Limited, 1899.

This is a tiny volume of sixty pages, in which no attempt has been made to write an exhaustive treatise upon this condition, but

simply to point out the bearings of this disease upon medical practice and to indicate how it may be treated. Practically the volume is a reprint of certain articles which have appeared in the *London Clinical Journal*, and the instruments and methods which are advised are of much greater interest to the dentist than to the general practitioner, although the book is designed to enable the general practitioner to treat the condition.

MASSAGE AND THE ORIGINAL SWEDISH MOVEMENTS, AND THEIR APPLICATION TO VARIOUS DISEASES OF THE BODY. By Kurre W. Ostrom. Fourth Edition, Revised and Enlarged. Illustrated.
Philadelphia: P. Blakiston's Son & Co., 1899.

This is a little manual, earlier editions of which we have noticed favorably in the THERAPEUTIC GAZETTE. We do not know of any small work upon massage which will give the physician and nurse so much practical information as this one, as the descriptions of the various movements and the illustrations which accompany these descriptions are adequate, and yet not so exhaustive as to be confusing and impracticable. The book is one which can be cordially recommended, and will do much good, we doubt not, in increasing the use of these valuable measures in the cure of disease.

HAY-FEVER AND ITS SUCCESSFUL TREATMENT. By W. C. Hollopeter, A.M., M.D. Second Edition, Revised and Enlarged.
Philadelphia: P. Blakiston's Son & Co., 1899.

About a year ago we noticed the appearance of the first edition of this little work, which contains at its end a considerable bibliography of the literature of this well known and persistent affection, and which, after discussing the various causes of the disease, embodies the views of the author and then details the treatment which he has found useful both in the way of local applications, general treatment, and dietetics. The fact that a second edition has been called for within a year shows that the author has dealt with the subject in a manner which has attracted attention.

A MANUAL OF DISEASES OF THE NERVOUS SYSTEM. By Sir W. R. Gowers, M.D., F.R.C.P., F.R.S. Third Edition, Revised and Enlarged, by Sir W. R. Gowers and James Taylor, M.A., M.D., F.R.C.P. Volume I: Diseases of the Nerves and Spinal Cord. With One Hundred and Ninety-two Illustrations. Price, net, $4.00.
Philadelphia: P. Blakiston's Son & Co., 1899.

As the title indicates this, the first, volume of the third edition of Sir William Gowers' classic manual upon diseases of the nervous system deals with diseases of the nerves and spinal cord. The privilege is not given to many physicians of presenting the profession with a work which at once gives evidence of great literary research and ample clinical facilities. Those who are familiar with Dr. Gowers' work note that in some places he deals with certain matters in a somewhat dictatorial and dogmatic manner, controverting views held by other eminent neurologists, but it must be admitted by all persons that the volume is a landmark in the progress of modern neurology. It is needless in this instance to deal with the qualifications which have made the book famous and popular. We are told in the preface of the third edition that every chapter has been subjected to careful revision, and that numerous additions have been made to the text as the result of advances in neurological science and experience. The very great advances which have been made in our methods of studying diseases of the nerves and spinal cord have, of course, necessitated a very great revision of certain portions of the earlier editions, and we find that in the description of the disease known as locomotor ataxia, the newer views concerning this malady are recognized and the important point is emphasized that it consists of the degeneration of the posterior columns of the cord or the peripheral sensory nerves, or both. Too often physicians regard the condition as purely a spinal one, when in reality the peripheral nervous manifestations are the more noteworthy.

It is a pity that in such an excellent book so little attention has been paid to the character of the illustrations. A number of the new ones are much better executed than the old ones, but all of them fail to approach the text in quality. Many of the pictures of patients, as for example those on pages 34 and 35, are little more than rude outline drawings.

THE SERUM DIAGNOSIS OF DISEASE. By Richard C. Cabot, M.D.
New York: William Wood & Company, 1899.

Dr. Cabot in his short prefatory note informs us that this book is nothing but a compilation, its aim being to bring together in convenient form the results of the immense amount of work which has been done upon serum diagnosis since 1896.

While it is true that it is to a large extent a compilation, the pages of the work show very clearly that Dr. Cabot has had a large amount of personal practical experience in serum diagnosis, and therefore the compila-

tion possesses all the greater value because his personal experience has enabled him to separate the tares from the wheat.

Dr. Cabot is a thorough believer in the value of serum diagnosis. We are informed as an instance of how useful it may be that when he arrived at Ponce he found at the United States General Hospital several hundred fever cases, all of whom were receiving large doses of quinine, because the diagnosis between typhoid and malaria had never been clearly established, owing to the lack of materials for producing the serum reaction. He examined 177 cases at this hospital, and found not a single instance of malaria among them, while ninety per cent of those examined showed prompt and intense reaction for typhoid fever. As a result of this a clear diagnosis was at once obtained, and the wholesale administration of quinine was checked and clear ideas as to the proper method of treatment were reached. So, too, it was possible on several occasions to make a differential diagnosis between typhoid fever with jaundice and yellow fever. As he also well points out, had the typhoid reaction been employed, it would not have been necessary to keep the Spanish prisoners nearly a week in Portsmouth, New Hampshire, in order that a diagnosis between typhoid, malaria, and yellow fever could be reached.

Finally, it is worth while to note the assertion with which he closes some introductory remarks, namely, that the cultures used for this test can be kept indefinitely at room temperature, and that the whole process can easily and safely be carried out by the physician in his office without any laboratory facilities, and with half the skill and labor necessary to examine urinary sediment. Dr. Cabot deserves an immense amount of credit for having placed before us this excellent summary of the knowledge of this most important subject.

ESSENTIALS OF MODERN TREATMENT OF DISEASE. By K. M. Nadkarni.
Madras: N. K. Rao & Co., 1899.

This is an extended therapeutic index for the treatment of diseases, arranged alphabetically, and containing many prescriptions for the administration of curative remedies. It seems to be based largely upon the experience of others, and a good deal of information, as is stated in the preface, has been taken from standard works upon practice and therapeutics. In the middle of the volume are several advertising pages of drug firms and publishers. We doubt not that amongst Indian practitioners who wish a book of this character it will prove successful, although we cannot see that it possesses any advantage over somewhat larger and smaller manuals which are at present employed by British and American physicians.

THE HYGIENE OF THE MOUTH. A Guide to the Prevention and Control of Dental Diseases. By R. Denison Pedley, F.R.C.S. Ed., L.D.S. Eng. Illustrated.
London: J. P. Segg & Co., 1899.

The object of this book is quite evident from its title-page. Its contents are, naturally, of much greater interest to dentists than physicians, although it is not to be forgotten that much dental damage can be prevented if physicians in treating their patients pay more attention to the condition of the mouth and teeth. The volume contains copious directions as to the means by which the teeth may be preserved from decay by proper cleanliness and general medical care.

GOLDEN RULES OF SURGICAL PRACTICE. By E. Hurry Fenwick, F.R.C.S. Fifth Edition, Revised and Enlarged.
Bristol, England: John Wright & Company.

This is a tiny little volume of seventy-one pages, about 4 x 3 inches in size, and although it is necessarily closely printed it does not contain very much information in regard to surgery. On the other hand, it may be said that it has been compiled by a well known surgeon who has endeavored in its pages to embody what he thinks are a number of important points. Nearly every sentence begins with "Do not" or "Never forget to" do this or do that. It is a small enough volume to go into the vest pocket, and doubtless will be largely used by students.

We have also received three other little volumes, one entitled Golden Rules of Gynecology, another Golden Rules of Obstetrical Practice, and a third Golden Rules of Medical Practice, which belong to the same series. That upon Surgery, however, seems to us to be by long odds the best of the series.

MINERAL WATERS OF THE UNITED STATES AND THEIR THERAPEUTIC USES. To which is added an Appendix on Potable Waters. By James K. Crook, A.M., M.D.
Philadelphia: Lea Brothers & Company, 1899.

This is a large octavo volume of nearly 600 pages, printed in excellent type and on good paper, and with the object of providing the profession with information concerning mineral waters of the United States. The book opens with a general consideration of

mineral waters, and then deals with the various mineral ingredients which they contain and also with the gases with which they are sometimes charged. After this, chapters are devoted to the therapeutics of the various mineral waters, and then follow others in which the subjects of baths, douches, and other medicinal measures are discussed. In Part Two we find a description of the mineral springs and wells of the United States, with the topographical and climatic features of each in each State and Territory, the various springs being arranged in alphabetical order according to States. It is a matter of interest in looking over this list to find how rich certain States are in valuable mineral springs, and how few springs possessing medicinal properties are to be found in others. The character of the information in this part consists, first, in a description of the railroad facilities for getting to the resort, the distance from near-by prominent points, the post-office address, and then follows an analysis of the water, with a description of the conditions in which it is generally employed.

So far as we know, this is the only complete description of the various remedial waters of this country which is in existence. The work of compiling it must have been very great, and considering the difficulties of writing upon such a subject, the author has certainly completed his task very well indeed. It would be better for their patients if physicians would keep themselves informed as to the various hydrotherapeutic measures which are described, and which do not have to be used in many instances at the springs themselves, but can be employed at home.

THE GROSS AND MINUTE ANATOMY OF THE CENTRAL NERVOUS SYSTEM. By H. C. Gordinier, A.M., M.D. Illustrated with Colored Plates and in Black and White.
Philadelphia: P. Blakiston's Son & Co., 1899.

This is probably the most exhaustive book in the English language dealing with this subject. Although there are a number of translations of foreign works which have been presented to American readers, we believe this is the first one of any size or importance which has been prepared by an American author.

The manner of its publication is almost that of an *edition de luxe*, as the large octavo pages, good-sized type, and heavy paper make it a very handsome illustration of what the medical book-maker's art is to-day. In addition to the colored plates and black and white drawings which illustrate the difficult and somewhat complex subject with which it deals, there are also a number of ordinary colored illustrations which add materially to the value of the book. So far as we have been able to see, every picture shows exactly what it is intended to illustrate, and almost every page indicates the fact that the author is thoroughly in touch with modern neurological views and with the technique of the preparation of neurological specimens Considering the great advances which have been made recently in our knowledge of the minute anatomy of the nervous system, the book appears at a most opportune time. Of course, much of the material which it contains is in the nature of a compilation, but as the compiling has been well done, this is an advantage rather than a disadvantage. Towards the close of the book the various staining methods are given for the preparation and examination of neurological specimens, and a copious index closes its pages.

Much credit is to be given to the author for its preparation, and almost as much to the publishers for their generosity in having provided so handsome a presentation of an important topic.

OUR BABY: FOR MOTHERS AND NURSES. By Mrs. Langton Hewer. Sixth Edition, Revised.
Bristol, England: John Wright & Co.

Six editions of this little handbook designed for mothers and nurses have appeared since January, 1891, and therefore it has evidently proved itself of value to this class of caretakers and readers. An important point evidently recognized by the authoress and insisted upon in her preface, is the well known fact that no two babies are exactly alike, and that every child has its own peculiarities which must be carefully watched and studied; and again, that young mothers are very much influenced by the views of monthly nurses, who if they are well trained can be of distinct educational value to the maternal mind, and if they are poorly trained have an opportunity for perpetuating certain superstitions in regard to childbed and child-growth which are sometimes unfortunate in their results.

This little book does not profess to be an advanced work upon the care of infancy, nor is it to be employed by physicians, although we are told that in the preparation of the text the authoress has had the advantage of having her pages revised by a competent medical man.

Correspondence.

LONDON LETTER.

By Raymond Crawfurd, M.A., M.D. Oxon., M.R.C.P. Lond.

Another medical year has just drawn to a close, and the benediction has been pronounced over its departure by the recent meeting of the British Medical Association at Portsmouth. The burning question of the year has been the evolution of the new university for London; the Commissioners have at any rate succeeded in finding a local habitation for the university in the desolate buildings of the Imperial Institute. Whether a great teaching center in this site is to supplant or merely supplement the work of already existing centers is a point on which we are still in the dark. There is a pretty widespread feeling that in maintaining so large a number of independent teaching institutions as at present, medicine in the metropolis is laboring under a heavy economical disadvantage. So much of the fees of students is absorbed in the teaching of such costly subjects as physiology, that little is forthcoming for the furtherance of clinical research, and in this field at the present time we are in urgent danger of falling behind other nations. There can be little doubt that some degree of concentration of the early medical subjects is the best and indeed the only way of solving this difficulty, but we do not think that complete concentration into a single center is desirable, as so large a body of students could not be effectively handled by a single set of teachers; and therein is the crux, as the Government clearly cannot be expected to provide several such centers, bearing in mind the price of a single site in the metropolis, and teaching institutions, like individuals, have no liking for the principle of "survival of the fittest" when applied to themselves. There is reason to believe that before the end of the current year we shall be in possession of the Commissioners' complete scheme.

King's College Hospital has just appointed a special physician for diseases of children. To you in America, and to several continental nations, this would hardly seem worthy of comment, but as a fact this is the first appointment of the kind in a general medical school that has been made at any hospital in Great Britain. The natural evolution of the appointment should be towards a professorship in the same subject in association with the hospital clinic.

The lay papers have been in their element recently with startling announcements of the discovery of the causation of cancer, and promises of its disappearance from the catalogue of ills that flesh is heir to. It need hardly be said that the observer to whom these soul-stirring discoveries are attributed is guiltless of inspiring these effusions. The plain fact, as detailed by Dr. Lambert Lack in his disclaimers, is as follows: Having been long impressed by the belief that the epithelial cells of cancer were themselves the sole infective agents, that this cancer epithelium was practically normal epithelium only out of place, and that from the very commencement of the cancer it was growing in the lymph space, Dr. Lack concluded that if normal epithelium by some accidental means should obtain entrance into the lymph spaces it would find no barrier to its continued growth, and would produce all the phenomena of cancer. Accordingly Dr. Lack set to work to test his conclusion. He prepared an emulsion of the healthy epithelial cells from the ovary of a healthy rabbit, and placed them in the animal's peritoneum. The animal died fourteen months later, and on examination masses of growth were found in the abdominal and thoracic cavities having the characteristic features of typical ovarian cancer. The *Journal of Pathology* contains a more extensive account of this experiment. We sincerely sympathize with Dr. Lack in the unfortunate publicity that has befallen his experiment, before he has had an opportunity of confirming or condemning it by a series of experiments on the same lines.

Dr. Jardine read an interesting paper at the Edinburgh Obstetrical Society on the treatment of eclampsia by saline injections. He held that in most cases that came under treatment before convulsions came on it was easy to abort the attack by purgatives, diaphoretics, and diuretics, eliminating the poison, but that if convulsions had already set in it was a much more difficult task to obtain diuresis. With this end in view he had employed large saline injections into the subcutaneous tissues. In most of the cases he had used a mixture of one part of bicarbonate of potash to three of common salt, a teaspoonful to the pint of sterilized water at 100° F. The potash was added because of its diuretic action, and no poisonous effects had been observed. If such occurred it was

always possible to use acetate of sodium, which though less diuretic was also less toxic than the acetate of potash. The injection could be made in any part where the tissue was lax. After delivery Dr. Jardine had selected the lax abdominal wall, and before delivery the edge of the breast, and in either situation it was quite easy to run in a pint in four minutes, and the whole would be absorbed in from fifteen to twenty minutes. It is difficult to subscribe to Dr. Jardine's suggestion that the bicarbonate of potash may help to neutralize the poison in the blood. Moreover, on the evidence supplied by Dr. Jardine in his communication it is difficult to see that the addition of bicarbonate of potash carries with it any special advantage over the normal saline solution. Dr. Jardine had found benefit from the employment of veratrum along with the saline injections, but he was far from considering it a specific; certainly it was preferable to morphine, which, though concealing the outward expression of the condition, served assuredly to aggravate the cause.

Dr. Yonge sounds a note of warning against the common belief that orthoform as a local anesthetic to ulcerated surfaces is quite innocuous. It seems that in a small percentage of cases orthoform, like pure carbolic acid, tends to produce sloughing from local necrosis; the process can, however, be readily checked by withdrawing the drug. Brocq also has observed an inflammatory reaction of the skin, and Epstein vomiting, collapse, and other disorders when the drug is given by the mouth.

PARIS LETTER.

By A. R. Turner, M.D. (Paris).

Dr. Plicque, of Paris, has published recently in the *Presse Médicale* an article on the treatment of fibrous phthisis. A few words on the various points shown up by Dr. Plicque may prove of interest to our readers. Fibrous phthisis is more troublesome but less dangerous than the ordinary form. The cough is more painful, more hacking; hemoptysis is more frequent, abundant, and tenacious. Slight attacks of congestion are often observed, but with all this the local lesions do not increase in intensity. The reason for this benign tendency is that, as Landouzy has said, there is a tendency to sclerosis due to the general condition of the patient. On account of its special attributes, this form of phthisis offers special indications, and what is less known, special contraindications. The air cure should be followed out with certain precautions. No very high altitudes, no exaggeration in muscular exercise should be practiced, for the open country is quite sufficient in spring, summer, and autumn. In winter the patient should be sent to Pau, Mentone, Cannes, Grasse, San Remo. The fits of coughing should be suppressed as much as possible, and excessive talking is to be discountenanced.

The food cure cannot be applied here as in most cases. The kidney, without being very much attacked, is in far from perfect condition, and all excessive formation of toxins is apt to irritate the glandular tissue and provoke albuminuria. It would seem that milk is indicated, but its use cannot be continued very long, as it is apt to cause weakness, excessive perspiration, and polyuria. Raw meat, powdered vegetables, the yolks of very fresh eggs, and white meats are easily taken and do not produce any bad results. Any symptoms of intolerance, such as palpitations, vertigo, and expectoration, are easily stopped by the use of a milk diet.

All the preceding remarks apply as well to the use of drugs.

On account of the congestive tendencies, such drugs as iodine, sulphur, and arsenic should be used with care. For instance, mineral waters containing arsenic or sulphur should be recommended with caution. Le Mont Dore, La Bourboule Luchon, Les Eaux-Bonnes, offer a certain efficacy in some forms of fibrous phthisis, but when employed without moderation may cause congestion and hemorrhage. One of the best drugs that can be used against dyspnea is iodide of sodium or iodide of potassium. Dr. Potain, the celebrated heart and lung specialist, uses the following formula:

> Chloride of sodium, 10 grammes;
> Bromide of sodium, 5 grammes;
> Iodide of sodium, 1.50 grammes;
> Distilled water, 100 grammes.
>
> From one to three teaspoonfuls a day in a cup of milk.

Iodoform would also seem to be indicated on account of its tendency to prevent hemorrhage. Five to ten centigrammes a day is sufficient. For instance:

> Iodoform, 0.05;
> Dover's powder, 0.10;
> Tolu balsam, q. s.
>
> For one soft pill. One or two daily.

If there is intolerance, hypodermic injec-

tions consisting of the following may be employed:

Iodoform, 1 gramme;
Sweet almond oil, 20 Cc.
One injection daily of one cubic centimeter.

In case of hemorrhage, fractional doses of ipecacuanha are efficacious.

Lastly, revulsion is often useful. The thermocautery is to be preferred to blisters or tincture of iodine on account of the condition of the kidney.

At a recent meeting of the Academy of Medicine Professor Landouzy presented, on behalf of Dr. Carsoute, a physician of the hospitals of Marseilles, a note on the use of carbonate of creosote in the treatment of non-tuberculous bronchopneumonias. The doses given varied from five, ten, fifteen, up to twenty grammes. Given in this manner, this drug brings about the asepsis of the pulmonary tract, and there is consequently a lowering of the temperature, a shortening of the duration of the illness, and a rapid amelioration which is shown by the disappearance of the functional and physical symptoms.

A recent treatment for chronic urethritis is that indicated by Dr. Desnos, surgeon of the hospitals, and Dr. Guillon, of Paris. Picric acid is the agent used, and the authors of this new treatment have insisted on its harmlessness when cautiously employed. Instillations are made every other day with a one- or two-per-cent solution, twenty to eighty drops being used. With the first group of seventeen chronic cases, thirteen cures have been obtained, two noticeable ameliorations, and two failures, which were operated upon later. When the urethritis is of tuberculous origin the results are not so brilliant, only two cures out of twelve cases being obtained.

At the meeting that took place at the Academy of Medicine on July 18, Professor Robin and Dr. Leredde spoke of the work they have done in establishing a correlation between diseases of the skin and diseases of the stomach. In 422 cases of stomach affections, cutaneous manifestations were found in 129. Thirty patients suffering from prurigo, lichen, or eczema were examined as to the condition of their gastric juice, and in all there were found butyric and lactic acid. This form of dyspepsia is very often latent. By administering jaborandi the perspiration was increased, and on examination was found to contain a greater coefficient of acidity than is usually found. Perhaps the alteration of the skin is due to this excess of excretion. The treatment was a direct result of this conception, and out of seventeen cases there were seven cures. As a means of checking gastric fermentation Dr. Robin employed fluoride of ammonium:

Fluoride of ammonium, 0.20 centigramme;
Distilled water, 300 grammes.
Two large spoonfuls to be taken every day.

As a means of checking butyric fermentation Dr. Robin has found it advisable to give iodide of bismuth and cinchonine 1 to 5 centigrammes, or iodated sulphur 10 to 20 centigrammes, which was given in the middle of each meal. In old cases sterilized milk is beneficial. As a means of employing local treatment the best method is to apply on the skin silicated water containing carbonate and silicate of calcium. This preparation is dusted over the diseased surface, and an application is used as a sort of varnish, containing a greater or smaller quantity of aloes, according to the duration of the affection.

It is a well known fact that the number of patients going to the spas in France has not increased in as noticeable a manner as in Germany. The causes of this are manifold. The administrations of the different establishments are not so progressive in France as in Germany. There is not that constant striving to improve the conditions of the watering-place. But outside this purely material cause and the fact that some waters are no longer thought to be efficacious, another reason is that the French physician graduates without having any definite idea about the value of the various waters that can be used in France, and not having sufficiently precise indications on this subject, he prefers to abstain from ordering them. There has been instituted recently a committee of well known physicians, under whose management a series of excursions to the waters will be undertaken. On September 2 a trip will be taken to the waters of the central part of France and of Auvergne, such as Néris, La Bourboule, Mont Dore, St. Nectaire, Royat, Chatel Guyon, Vichy, Bourbon Laachambault, Bourbon-Lancy, St. Honori, Pougues. Professor Landouzy, of the Faculty of Medicine of Paris, will accompany the group of physicians and students who will subscribe to this trip, and at the different spas will give an explanation of their usefulness and action. This excursion will last eleven days, and will end at Pougues.